CONSTRUCTION NEWS

PERSONALS, ENGINEERING SOCIETIES, INDUSTRIAL NOTES, TRADE PUBLICATIONS.

Supplement to ENGINEERING NEWS. Thursday, January 29, 1903.

CONTENTS.

PERSONAL 49
Obituary 49
ENGINEERING SOCIETIES. 49
Coming Meetings 49
CONSTRUCTION NEWS:
Condensed List of Contracts Pending 50
Railways 50
Street and Electric Railways 51
Light, Heat & Power Plants 52
Bridges 52
Buildings 53
Water Supply and Irrigation 54
Sewerage 55
Garbage Disposal and Street Cleaning 55
Streets and Roads 55
Manufacturing Plants 56
Miscellaneous Contracts 56
Contract Prices 57
U. S. Possessions and Cuba 57
Foreign Contracts and Export News 57
INDUSTRIAL NOTES 58
PUBLICATIONS RECEIVED 58
NEW PUBLICATIONS 58
Trade Publications 58
PROPOSALS 58
ADVERTISERS' CLASSIFIED DIRECTORY ...59 and 60

PERSONAL.

Mr. G. I. Cummings has resigned as First Vice-President of the Erie R. R.

Mr. J. A. Middleton, recently of the Erie R. R., has been elected Second Vice-President of the Lehigh Valley R. R.

Mr. C. T. Coley has been appointed Instructor in Electrical Engineering at Union College, Schenectady, N. Y.

Mr. David A. Geraty has been appointed General Manager of the Central New England Ry., with office at Hartford, Conn.

Mr. Charles F. Lacombe has been appointed engineer of surface construction to the Department of Water Supply, Gas and Electricity of New York city.

Prof. P. R. Alger, U. S. N., has been awarded a gold medal by the Board of Control of the Naval Institute for his essay on "Gunnery and the Navy."

Mr. George H. Emerson has been appointed Superintendent of Motive Power on the Great Northern Ry. He has been General Master Mechanic of the western division.

Mr. F. A. Manley, Chief Engineer of the Union Pacific Coal Co., Rock Springs, Colo., has resigned to take up the practice of hydraulic and mining engineering in Idaho.

The Terre Haute, Ind., Water-Works Co. has elected its officers as follows: President, Mr. D. R. Gwinn; Vice-President, Mr. A. W. Harris; Secretary, Mr. M. A. Caldwell.

The general offices of the White Pass & Yukon Route have been removed from the Dexter Horton Bldg., Seattle, Wash., and located in the MacKinnon Bldg., Vancouver, B. C.

Mr. Frank W. Latimer, has resigned as General Manager of the People's Traction Co., of Galesburg, Ill., and will be succeeded by Mr. Thomas W. Peterson, now of that company.

Mr. M. Schulter has been appointed Industrial Commissioner of the St. Louis, Memphis & Southeastern R. R. and the St. Louis & Gulf Ry., with headquarters at St. Louis, Mo.

Mr. M. C. Byers, Assistant Engineer of the Pennsylvania Lines West of Pittsburg, has been appointed Assistant Engineer of Maintenance of Way on the Baltimore & Ohio R. R.

Col. W. S. Nock has been elected President of the Covington, O., Board of Water-Works Commissioners, succeeding Mr. D. B. Bayless, who has held that office for the past nine years.

Mr. Eugene R. Hedden has sold out his business to the Hedden Iron Construction Co., and will become President and Manager of the new company, with office at 22 Clinton St., Newark, N. J.

Mr. W. W. Grant, who for eight years was associated with the Westinghouse Electric & Mfg. Co., has been elected Vice-President and Sales Manager of the Fiber Conduit Co., of Orangeburg, N. Y.

Mr. R. Stevenson Henshaw, formerly Engineer and Manager of the Harrogate water-works, has been appointed Water-Works Engineer and Surveyor of the Urban District Council of Portland, England.

Mr. Geo. F. Wilson, Superintendent of Motive Power and Equipment of the Chicago, Rock Island & Pacific R. R., has resigned. Mr. M. K. Barnum has been appointed his successor, with headquarters at Chicago.

Messrs. Herman Weig and S. P. Brown have been appointed General Agents of the White Pass & Yukon Route, with offices at 1016 Chamber of Commerce Bldg., Chicago, and 30 Dexter Horton Bldg., Seattle, Wash., respectively.

Mr. Andrew Rinker, heretofore Engineer of the Great Falls Water Power & Townsite Co., has been elected City Engineer of Minneapolis, Minn. Mr. Rinker was formerly City Engineer of Minneapolis for a number of years until 1893.

Mr. W. J. Jackson has been appointed General Superintendent of the Chicago & Eastern Illinois Ry., of which he has been Assistant General Superintendent, with headquarters at Chicago, succeeding Mr. E. P. Broughton, resigned.

Mr. I. W. Young has been appointed Purchasing Agent of the White Pass & Yukon Route, with office at 20 Mackinnon Bldg., Vancouver, B. C., succeeding Mr. E. B. Hussey, resigned. Mr. J. Francis Lee, Traffic Manager, has resigned.

Mr. J. N. Shannahan, Engineer of the Fonda, Johnstown & Gloversville Ry., has been appointed General Superintendent, and Mr. W. H. Collins, heretofore Acting Master Mechanic, is appointed Master Mechanic, both with offices at Gloversville, N. Y.

Mr. John B. Ansley, who for several years past has been City Engineer of Americus, Ga., has resigned to accept the position as superintendent of the construction of the sewerage system in New Orleans, La. He will be succeeded by Assistant Engineer Speer.

Mr. Frederick R. Harris has resigned as Chief Draftsman of the Charleston Navy Yard, and as Assistant Engineer to the New York Rapid Transit Commissioners, to accept the commission of civil engineer in the U. S. Navy, with the rank of Lieutenant, Junior Grade.

Mr. Howard F. Grant, Secretary to the Vice-President of the Boston Elevated Ry. Co., has resigned his position to become General Manager of the Seattle Electric Co. of Seattle, Wash. Mr. Grant has been connected with the company and its predecessor, the West End St. Ry. Co., for the past ten years.

Mr. William Coughlin, Superintendent of the Northern Division of the Kansas City Southern Ry., at Pittsburg, Kan., has been appointed to succeed Mr. F. W. Egan, resigned, as General Superintendent of the Denver & Rio Grande and the Rio Grande Southern roads, with headquarters at Denver, Colo.

Mr. F. L. Chase, M. Am. Soc. C. E., having been elected President of the Jamestown, Chautauqua & Lake Erie R. R. Co. and the Chautauqua Steamboat Co., has resigned the position of Engineer of Bridges of the New York Central & Hudson River R. R., effective Feb. 1. His headquarters will be at Jamestown, N. Y.

Mr. George Hornung, C. E., and M. Am. Soc. M. E., of Portsmouth, Va., continues in his position as General Manager of the Portsmouth, Berkeley & Suffolk Water-Works properties, which have recently been sold by the Railways & Light Co. of America to a syndicate of capitalists headed by Mr Gustavus Ober, of Baltimore, Md.

Mr. James McNaughton, Superintendent of the Brooks works of the American Locomotive Co., has been appointed General Superintendent of the Schenectady and Brooks plants. Mr. W. L. Reid, Assistant Superintendent of the Brooks works, has been appointed Superintendent of the new works at Schenectady, N. Y. Mr. R. R. Gilmour, heretofore Superintendent of the Canada Foundry Co., of Toronto, has been appointed Superintendent of the Brooks plant at Dunkirk, N. Y., and Mr. R. T. Shea, formerly of the Schenectady shops, has been appointed Superintendent for the Montreal Locomotive & Machine Co., at Longue Pointe, Can.

OBITUARY.

Mr. C. E. H. Campbell, M. Am. Soc. C. E., Bridge Engineer and Contractor, of Council Bluffs, Ia., died on Dec. 6. Mr. Campbell had been in business for some 30 years.

Mr. John Fuller, Superintendent of Bridges on the New York Division of the New York, New Haven & Hartford R. R., died Jan. 15 at Bridgeport, Conn., aged 79 years. He had been in the company's employ 45 years.

Mr. Williams Perkins Tyler, the founder of the business of The Tyler Tube & Pipe Co., of Washington, Pa., died early this month. Mr. Tyler started the business in 1890 and devoted the last twelve years of his life to its development.

Capt. W. W. Rich, Civil Engineer, of Minneapolis, Minn., who for six years has been Consulting Engineer of the Chinese Imperial Railways, with headquarters at Shanghai, China, died in that city on Jan. 12. Capt. Rich was 60 years of age. He served through the Civil War with a Missouri regiment.

Mr. Samuel G. De Coursey, President of the American Rys. Co., died at his home in Philadelphia, Pa., on Jan. 27, of grip, aged 64 years. He was a native of Queenstown, Md., and was educated at St. James' College, in Washington County, Md. He entered the railway service in 1884 as Vice-President of the Western New York & Pennsylvania R. R., and was President of that road in 1892, and later receiver.

Rev. Henry Watson, F. R. S., died at Brighton, England, on Jan. 11, aged 76 years. He was a frequent contributor to scientific magazines, and was the author of "Electricity and Magnetism; Electrostatics; Magnetism and Electrodynamics" and the article on "Molecule" in the Encyclopædia Britannica.

Mr. Charles T. Thayer, of Plainfield, N. J., President of the Edison, Jr., Electric Light & Power Co., and Vice-President of the Santa Barbara Gold Placer Co., was killed in the wreck on the Central R. R. of New Jersey, just west of Westfield, N. J., on Jan. 27. Mr. Thayer was also a director of the Black Canyon Hydraulic & Electric Power Co., and the Interstate Telephone Construction Co.

Mr. James Wimshurst, F. R. S., died in England on Jan. 3, aged 70 years. Mr. Wimshurst's name was associated with the introduction of the screw propeller and in the designing and perfection of the electrical influence machine. He was educated at Stebonheat House, London, and for eight years was employed on the professional staff of Lloyd's Register of Shipping, after which he was appointed to the Consultative Branch of the Board of Trade. In 1892 he was given a seat in the Council of the Physical Society, and in 1898 was made a Fellow of the Royal Society.

Mr. Elnathan Sweet, M. Am. Soc. C. E., Engineer and Surveyor, died at the Fort Orange Club, in Albany, N. Y., on Jan. 26. Mr. Sweet was born in Cheshire, Mass., in 1837; and was graduated from Union College in the class of 1859, in which year he was appointed deputy to Gen. Ward B. Burnet, Surveyor-General of Kansas and Nebraska. Since then he has practised as a civil engineer. From 1869 to 1872 he was Chief Engineer of the Rock Island & St. Louis R. R., and also General Superintendent of that road from 1870 to 1871. He was the engineering expert to the Canal Investigating Commission appointed by Governor Tilden, of New York, in 1875, and Division Engineer of the Eastern Division of the State canals from 1876 to 1880, when he resigned to enter business as contracting engineer. In 1883, he was elected State Engineer and Surveyor of New York, and was re-elected two years later. He has been for a number of years at the head of the Hilton Bridge Construction Co., and has also filled the position of Receiver of the Lebanon Springs R. R. Co. He contributed several valuable papers to the American Society of Civil Engineers, of which he became a member in 1878. Less than a year ago Mr. Sweet was appointed a member of the New York State Water Storage Commission.

ENGINEERING SOCIETIES.

COMING MEETINGS.

AMERICAN CERAMIC SOCIETY.
Feb. 2, 3. Annual meeting at Boston, Mass. Secy., Edw. Orton, Jr., Columbus, O.

NATIONAL BRICK MANUFACTURERS' ASSOCIATION.
Feb. 4-14. Annual convention at Boston, Mass. Secy., T. A. Randall, Indianapolis.

CONNECTICUT SOCIETY OF CIVIL ENGINEERS.
Feb. 10. Annual meeting, at Hartford, Conn. Secy., J. F. Jackson, New Haven, Conn.

AMERICAN INSTITUTE OF MINING ENGINEERS.
Feb. 17, 18, 19, 20. Annual meeting at Albany, N. Y. Act. Secy., Theodore Dwight, New York.

AMERICAN RAILWAY ENGINEERING AND MAINTENANCE-OF-WAY ASSOCIATION.
March 17, 18. Annual meeting, at the Auditorium Hotel, Chicago. Secy., L. C. Fritch, 1562 Monadnock Block, Chicago.

ENGINEERS' SOCIETY OF WESTERN PENNSYLVANIA.—It has been decided to organize sections of the society to deal with special subjects more in detail than can be done by the society as a whole. At present a Mechanical Engineering section and a Designers' and Draftsmens' section has been organized. An employment department will also be organized.

AMERICAN RAILWAY ENGINEERING AND MAINTENANCE-OF-WAY ASSOCIATION.—The committee on Signs, Fences and Cattleguards of this association, which will report at the annual meeting in March, desires drawings and information of all fences and cattleguards on the market. Matter should be sent to the Secretary, Mr. L. C. Fritch, Monadnock Block, Chicago.

MICHIGAN POLITICAL SCIENCE ASSOCIATION.—A "Convention of Educators and Business Men" will be held under the auspices of this association at Ann Arbor, Mich., on Feb. 5, 6 and 7. The purpose is to discuss questions relative to education on commercial subjects at the universities. The papers and discussions at the convention will be published later as part of the proceedings of the association. Programs may be had by applying to Prof. H. C. Adams, Ann Arbor, Mich.

ENGINEERS' CLUB OF ST. LOUIS.—At the meeting of Jan. 7, President Van Ornum in the chair, Mr. Layman read a paper on "The Use of Electric Power in Factories," in which he emphasized especially the advantages of distributed motor driving. In the discussion, by Messrs. Cooper, Schwedtman, Humphrey and Johnson, the principal points brought out were the importance of the increased output per machine secured by the electric drive, and the fact that both direct and alternating current had their special fields of advantageous use.—Secy., H. J. Pfeifer.

ENGINEERS' CLUB OF PHILADELPHIA.—A conversational meeting of the club will be held on Saturday, Jan. 31, when "The Manufacture and Uses of Asphalt" will be discussed. Mr. H. Wiederhold will read a paper on "Rock Asphalt and Asphalt Mastic." On Saturday, Feb. 7, the club will make an excursion to New York, leaving Broad St. station at 7.33 a. m. The club will inspect the plant of the Barber Asphalt Paving Co., in Long Island City, and will probably also visit the subway of the New York Rapid Transit Railway, now in course of construction.—Secy., J. O. Clarke.

NORTH CAROLINA WATER-WORKS ASSOCIATION.—An organization with this name was formed a week or two ago, at a meeting held at the office of the Wake Water Co., Raleigh, N. C. The objects of the association are stated to be "to prevent pollution of water supplies and promote water purification." Mr. J. C. Michie, of Durham, was elected President, and Mr. E. B. Bain, of Raleigh, Secretary; the next meeting is to be held some time in July. A resolution was passed memorializing the legislature to urge Congress to establish the proposed Appalachian Park, as a protection to the future water supply of the Southern states.

NORTHWESTERN ELECTRICAL ASSOCIATION.—At the annual meeting, which was held at the Hotel Pfister, Milwaukee, on Jan. 21 to 23, the following gentlemen were elected as officers for the coming year: President, Mr. F. W. Bowen, Kenosha, Wis.; Vice-Presidents, Messrs. H. J. Gille, St. Paul, Minn., and A. M. Brown, South Bend, Ind.; Secretary and Treasurer, Mr. Thos. R. Mercein, Milwaukee, Wis. The professional proceedings of the meeting included the following: Presidential Address, by Mr. I. P. Lord, of Waupaca, Wis., the retiring President; "Rates and Methods of Charging," by Mr. J. W. Shuster, of Madison, Wis.; "Metal Preservation," by Prof. A. H. Sabin, of New York, N. Y.; "Automatic Voltage Regulation," by Mr. H. C. Wirt, New York, N. Y.; "Lighting and Illumination," by Mr. W. D. Ryan, of Chicago, Ill.; "The Economic Value of Testing," by Prof. G. D. Shepardson, Minneapolis, Minn.

JOHN FRITZ MEDAL TRUSTEES.—The following gentlemen have been appointed as trustees by the four societies who recently combined to establish the John Fritz prize medal: American Society of Civil Engineers, Messrs. J. J. R. Croes of New York, Robert Moore of St. Louis, Alfred Noble of New York, and Chas. Warren Hunt of New York, respectively for one, two, three and four years; American Institute of Mining Engineers, Messrs. E. E. Olcott of New York, E. G. Spilsbury of New York, James Douglas of New York, and Charles Kirchhoff of New York, for similar terms of years; American Society of Mechanical Engineers, Messrs. Gaetano Lanza of Boston, J. E. Sweet of Syracuse, R. W. Hunt of Chicago, and S. T. Wellman of Cleveland, for similar terms; American Institute of Electrical Engineers, Messrs. A. E. Kennelly of Cambridge, Mass., Carl Hering of Philadelphia, Chas. P. Steinmetz of Schenectady, N. Y., and Chas. F. Scott of Pittsburg.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—The first of the monthly meetings or "reunions," as the announcements call them, was held on Wednesday evening, Jan. 21, the date having been changed from the 20th to the 21st subsequent to the advance announcement of the meeting, which appeared in this column. About 50 were in attendance, and the President, Mr. James Mapes Dodge, was in the chair. Mr. C. R. Allen, of Worcester, Mass., read a paper on "A Water Meter for Turbine Wheels," in which he described a registering apparatus devised by himself and Mr. Geo. I. Rockwood some two years ago. This apparatus was described in Engineering News of Jan. 22, 1903, p. 85, in a discussion by Mr. Rockwood on another matter. Mr. Allen's paper was illustrated by some lantern slides and by an exhibition of a meter such as described. There was little discussion on the paper. The matter of applying such a device to Pacific Coast water power conditions was brought up, but it was concluded that it was not necessary there.

The next monthly meeting will be held on Feb. 3, when Mr. R. L. Morgan will read a paper on "The Heavy Steam Driven Automobile Truck."

ROADMASTERS AND MAINTENANCE-OF-WAY ASSOCIATION.—The committee for the present year have been appointed as follows (the names of the chairmen being given in each case): 1. Best Method of Maintaining Flre, Surface and Gage, E. Morrill, B. & M. Ry., Lawrence, Mass.; 2. The Education of Young Men as Section Foremen, and the Discipline of Section Men, M. Sullivan, Michigan Central Ry., Niles, Mich.; 3. New and Improved Appliances for Maintenance of Way, C. Buhrer, L. S. & M. S. Ry., Sandusky, O.; 4. Tile Drainage, J. M. Meade, A., T. & S. F. Ry., Topeka, Kan.; 5. Wooden, Metal and Composition Ties, Tie-Plates and Tie Preservation, J. E. McNeill, So. Cal. Ry., Los Angeles, Cal.; 6. Machine Ditching, A. L. Mead, C. & N. W. Ry., Clinton, Ia.

There will also be papers presented as follows: 1. "Advisability of Putting in 60-ft. Rails to Keep Joints Out of Crossings," J. A. Lahey, Chicago Terminal Ry, Chicago; 2. "General Track Work," A. Morrison, Cambria Steel Co., Pittsburg, Pa.; 3. Timber Preservation," Hermann Von Schrenk, U. S. Department of Agriculture, St. Louis, Mo.; 4. "Creeping of Rails," F. J. Allen, C., B. & Q. Ry., Aurora, Ill.

The next meeting will be held at Kansas City, Mo., Oct. 13, 14 and 15, 1903.

WESTERN SOCIETY OF ENGINEERS.—At the meeting on Jan. 21, Mr. T. L. Condron presented a paper on "Specifications in Material and Workmanship for Steel Structures," the purpose of which was to further the movement in favor of greater uniformity in such specifications. One particular point made was that the engineer's elaborate and detailed specifications are not seen by the men actively engaged upon the work. They have only the brief extracts shown upon the mill orders or working plans, and such general instructions as may be given to the foremen. If, however, work is required to be in accordance with well-known or so-called standard specifications, the men in the mills and shops know what is required and work accordingly. The author advocated the reaming and planing of all steel used for main members and connections of bridges, believing the expenditure to be money well spent for either railway or highway bridges. The superior fitting together of the parts secured by reaming insures increased strength of the structure, and the removal of injured metal around rivet holes and on sheared edges is a safeguard against failure from shocks.

The paper was supplemented by complete specifications for structural steel, workmanship, inspection, etc., for bridges and buildings. These required the planing off of ¼-in. on all sheared edges, and rivet holes to be punched at least ¼-in. smaller than finished diameter and then reamed to 1-16-in. larger than the diameter of the rivet. All reaming to be done after all pieces fastened together by the same rivets have been assembled, and the burrs on all reamed holes to be removed by a tool countersinking about 1-16-in. under the rivet heads.

CONSTRUCTION NEWS.

CONDENSED LIST OF CONTRACTS PENDING WITH DATE OF OPENING BIDS.

Bids to be opened.	Work.	Place.	See Eng. News.
Jan. 29.	Sewers,	Fort Duchesne, Utah	Jan. 8
Jan. 29.	Bulkhead,	Philadelphia, Pa.	Jan. 1
	Advertised, Eng. News, Jan. 1 to 29.		
Jan. 30.	Breakwater,	Newport, R. I.	Jan. 1
	Advertised, Eng. News, Jan. 1 to 29.		
Jan. 30.	Library,	Geneseo, N. Y.	Dec. 25
Jan. 30.	Paving,	Owosso, Mich.	Jan. 8
	Advertised, Engineering News, Jan. 8.		
Jan. 30.	Electric lighting, etc.,	Geneseo, N. Y.	Jan. 15
Jan. 30.	Boiler house (bldg.),	Chicago, Ill.	Jan. 22
Jan. 30.	Cable,	New York, N. Y.	Jan. 22
Jan. 30.	Paving,	Buffalo, N. Y.	Jan. 29
Jan. 31.	Sewer,	Kansas City, Mo.	Jan. 29
Jan. 31.	Paving,	Kansas City, Mo.	Jan. 92
Jan. 31.	Water-works supplies,	St. Paul, Minn.	Jan. 29
Jan. 31.	Wharf, etc.,	Portland, Ore.	Jan. 29
Jan. 31.	Boat landing,	Erie, Pa.	Jan. 29
Jan. 31	Brick paving,	Akron, O.	Jan. 15
Jan. 31.	Bldg., steam heating, etc.,	San Diego, Cal.	Jan. 15
Jan. 31.	Paving,	Kansas City, Mo.	Jan. 29
Feb. 1.	Water-works, electric plant,	Searcy, Ark.	Dec. 25
Feb. 1.	School,	Scranton, Pa.	Dec. 18
Feb. 1.	Bridge,	Jacksonville, Fla	Jan. 1
	Advertised, Eng. News, Jan. 1.		
Feb. 1.	Hospital building,	Dayton, O.	Jan. 8
Feb. 1.	Building,	Flint, Mich.	Jan. 29
Feb. 2.	Building,	Trenton, N. J.	Jan. 29
Feb. 2.	Pumping engine,	Winnipeg, Man.	Jan. 29
Feb. 2.	Water-works & elec. lt plant,	Rayne, La.	Jan. 29
Feb. 2.	Water,	Hartwell, O.	Jan. 29
Feb. 2.	Paving,	Cincinnati, O.	Jan. 29
Feb. 2.	Sewers,	Slayton, Minn.	Jan. 29
Feb. 2.	Sprinkling plant,	San Rafael, Cal.	Jan. 29
Feb. 2.	Ash carts, etc., (garb. dispsl.),	New York	Jan. 29
Feb. 2.	Wells (w. w.),	Bloomington, Ill.	Jan. 22
Feb. 2.	Building,	Beaumont, Tex.	Jan. 22
Feb. 2.	Sanitary work,	New York, N. Y.	Jan. 22
Feb 2.	City hall and market house,	Houston, Tex.	Dec. 11
Feb. 2.	Sewers,	New Orleans, La.	Nov. 27
	Advertised, Eng. News, Nov. 27 to Feb. 5.		
Feb. 2.	Water pipe,	Winnipeg, Man.	Jan. 15
Feb. 2.	Sewer,	Delphos, O.	Jan. 22
Feb. 3.	Fire escapes,	New York, N. Y.	Jan. 15
	Advertised, Eng. News, Jan. 15 and 22.		
Feb. 3.	Buildings,	Washington, D. C.	Jan. 1
Feb. 3.	Building,	Cincinnati, O	Jan. 22
Feb. 3.	Sand, cement, etc.,	New York, N. Y.	Jan. 29
Feb. 3.	Sewer,	Jersey City, N. J.	Jan. 29
Feb. 3.	Sewers,	New York, N. Y.	Jan. 29
Feb. 3.	Gravel roads,	Tipton, Ind.	Jan. 29
Feb. 3.	Sewers,	Jerseyville, Ill.	Jan. 29
Feb. 4	Marine barracks,	Algiers, La.	Jan. 22
Feb. 4.	Street improvements,	Brooklyn, N. Y.	Jan. 22
Feb. 4.	Paving,	Cincinnati, O.	Jan. 22
Feb. 4.	Paving,	Sandusky, O.	Jan. 8
Feb. 4.	Dredging,	Boston, Mass.	Jan. 8
	Advertised, Eng. News, Jan. 8 to 29.		
Feb. 5.	Sewer,	Fort Apache, Ariz.	Jan. 15
Feb. 5.	Levee work,	Bossier City, La.	Jan. 15
Feb. 5.	Pier repairs, etc.,	Grand Rapids, Mich.	Jan. 22
Feb. 5.	School,	Buffalo, N. Y.	Jan. 29
Feb. 5.	Macadam paving,	Morton Park, Ill.	Jan. 29
Feb. 6.	Guard house,	Fort Flagler, Wash.	Jan. 29
Feb. 6.	Heating apparatus,	New York, N. Y.	Jan. 29
Feb. 6.	River deepening, etc.,	Buffalo, N. Y.	Jan. 29
Feb. 6.	Filing equipment,	New York, N. Y.	Jan. 29
Feb. 6.	Grading and graveling,	Knightstown, Ind.	Jan. 29
Feb. 6.	Steel tank (w.-w.),	Denver, Colo.	Jan. 15
Feb. 6.	Pumps, boilers, etc. (w.-w.),	Wellsville, O.	Jan. 15
	Advertised, Engineering News, Jan. 15.		
Feb. 7.	Building,	Toledo, O	Jan. 22
Feb. 7.	Water, light & ice plant,	Port Arthur, Tex.	Jan. 29
	Advertised, Engineering News, Jan. 29.		
Feb. 7.	Building,	Portsmouth, Va.	Jan. 29
Feb. 7.	El. l't plant, etc.,	Port Arthur, Tex.	Jan. 29
Feb. 9.	Street work,	New York, N. Y.	Jan. 29
Feb. 9.	Sewers,	New York, N. Y.	Jan. 29
Feb. 9.	Street lamp signs, etc.,	New York, N. Y.	Jan. 29
Feb. 9.	Paving,	Madison, Wis.	Jan. 29
Feb. 9.	Sewer,	Cincinnati, O.	Jan. 29
Feb. 9.	Sewer,	Toledo, O.	Jan. 29
Feb. 9	Bridge work,	Fredericton, N. B.	Jan. 15
Feb. 9.	Riprap stone,	Little Rock, Ark.	Jan. 15
	Advertised, Eng. News, Jan. 15 to Feb. 5.		
Feb. 9.	Building,	San Diego, Cal.	Jan. 15
Feb. 9.	Dredging trench,	Duluth, Minn.	Jan. 22
Feb. 10.	Two school houses,	Huntington, W. Va.	Jan. 22
Feb. 10.	Bridge,	Arkadelphia, Ark.	Jan. 8
No date.	Railway (Ohio),	Cincinnati, O.	Jan. 8
	Advertised, Eng. News, Dec. 18 to Jan. 29.		

RAILWAYS.

BURNSVILLE & EASTERN.—S. D. Brady, Ch. Engr., Parkersburg, W. Va., writes us that surveys have been completed and contracts for constructing this line will soon be awarded. The road will be 59 miles long. J. T. Blair, Parkersburg, is Pres.

CANADA NATIONAL.—Application will be made by McDowell Thompson, solicitor, of Toronto, Ont., to the Dominion Parliament for permission to revive the charter of this company, which provides for the construction of a road from Toronto to Collingwood, Ont.

CHICAGO, MILWAUKEE & ST. PAUL.—A preliminary survey has been made for an extension of this line from Woonsocket to Wessington Springs, in Iowa. The extension will run from Woonsocket to the Pony Hills, thence westward for 10 miles and in a northerly direction to the springs. The construction will be started early in the spring. D. J. Whittemore is Ch. Engr., Chicago.

EVERETT & SNOHOMISH RAPID TRANSIT CO.—Chas. Greene, Gen. Mgr., Everett, Wash., writes that the first survey has been made and the rights of way secured for this line, and construction will probably be started as soon as the weather permits. The company will probably supervise its own construction. The line will be 10 miles long, and run from Everett to Lowell and Snohomish. Dr. Alex. de Soto is Pres., and Don Read, Ch. Engr., both of Seattle, Wash.

FAYETTEVILLE & ALBEMARLE.—A. C. Wilcox, Pres., 55 Liberty St., New York, writes that the line has been surveyed and about all the rights of way obtained for the company's line, and the contract for constructing that part of the line between Fayetteville west 80 miles to the Peedee River awarded to the Southern Construction Co. About 30 miles have been graded and bridged and ties on the ground on part of the way. The 80 miles will be completed by Oct. 1, 1903. The completed road will run from Fayetteville to Southern Pines, Craigowan, Norwood and Concord, a distance of 120 miles. Part of the construction capital has been secured and negotiations are now pending for the balance. H. L. Thurston is Ch. Engr., Southern Pines, N. C.

GASPE & WESTERN.—Application is being made to the Dominion Parliament for the incorporation of this company to build a road from the station of Fraserville to Gaspe Basin, passing through the counties of Semiscouta, Bonaventure and Gaspe. Ernest Lapointe, Fraserville, B. C., is Solicitor.

GRAYS RUN RY.—We are informed that the surveys have been finished on this line and that contracts will be let next month. The line will run between Ralston to Grays Run, a distance of 16 miles. The funds for construction have been provided. C. S. Horton, Williamsport, is Pres., and S. T. Hoyt, Jr., Towanda, is Ch. Engr.

ILLINOIS BLACK DIAMOND.—The incorporators of this company, of which brief note was made in our last issue, include the following: H. H. Limmerman, Harvel, Ill.; Henry A. Dirkson, Springfield; C. A. Ramsey, Hillsboro; W. Williams, Marion; Judge C. J. Lindly, Greenville, and R. O. Lehn, Duquoin, Ill. The line will run from Peoria to Springfield, and thence south through Pawnee, Hillsboro, Greensville, Carlisle, Nashville, Duquoin and Marion to Harrisburg, a distance of 250 miles. The principal office will be at Springfield.

KANSAS, OKLAHOMA CENTRAL & SOUTHWESTERN.—Geo. W. Hall, Stillwater, Okla. Ter., informs us that the location of the company's line has been made for a distance of 120 miles and surveys are still progressing under the supervision of Chief Engineer Hetherington, of Stillwater. The road will run from Peru, Kan., to Stillwater, Guthrie, Elrino, Okla., and Kirkland, Tex., with branches. S. N. Surnford, Stillwater, is Pres.

LOUISVILLE & NASHVILLE.—Improvements are said to be planned to the roadbed on the line between Jellico and Corbin, Ky., in the way of grade reductions, curve eliminations and the replacing of rails by heavier ones and bridges by more substantial structures. Surveyors have been at work with work in view for several months, and it is believed that operations will be started at an early date. R. Montfort, Louisville, Ky., is Ch. Engr.

MALAD VALLEY R. R.—Wm. Ashton, Ch. Engr., Salt Lake City, Utah, writes us that the construction of this projected road, which will run by way of Corunne, Garland, Washakie and Portage to Malad City, some 48 miles, will be undertaken in the spring. The location surveys have been completed, but no contracts have yet been awarded. W. H. Bancroft, Salt Lake City, is Pres.

MIDLAND PACIFIC.—Articles of incorporation have been filed by this company in California with a capital stock of $5,000,000, to build a road from Bakersfield to a point on San Luis Bay. The work of securing rights of way will be commenced at once, and it is stated that the construction on the coast end will commence within 30 days. The road will cost to construct complete about $25,000. A. L. Weil, M. A. Lippett and L. J. Mansen are interested.

MONACACY VALLEY & FREDERICK.—Steiner Schley, Pres., Frederick, Md., informs us that the organization of this company is completed. The line to be built will run from Catoctin to Frederick, Md. Surveys are also finished. The company will do its own construction. L. Randolph Waesche, Catoctin, Md., is Ch. Engr.

MONTE NE RY.—W. H. Harvey, Monte Ne, Benton county, Ark., president of this road, now operating between Monte Ne and Lowell, Ark., informs us that the company is contemplating extending its road. Jack Taylor, Pierce City, Mo., is Ch. Engr.

NASHVILLE, GEORGIA & FANNIN.—Claud Baugh, Pres., Mineral Bluffs, Ga., writes that the rights of way are secured and surveys made, and contracts awarded for constructing the line for this company from Blue Ridge, Ga., to Morgantown, Nashville and Fannin, some 100 miles. The principal contractors are Wm. Hunter, Mineral Bluff; John Collins, Nashville, Tenn., and Merrill Skinner, Blue Ridge. Lester Blake, Mineral Bluff, is Ch. Engr.

NATCHEZ & GULF.—We are informed that surveys are now being made with two parties in the field, one on the Eastern Division and one on the Western Division, for the proposed road for this company, which will extend from Natchez to Gulfport, Miss., a distance of about 210 miles. The location of the Eastern Division is in charge of F. C. Engelsing, Poplarville, Miss. The capital has been secured for building the line and construction will start in the spring. A. G. Campbell is Pres., Natchez, Miss., and Col. W. W. Hungerford is Ch. Engr., Gulfport, Miss.

NEW YORK CENTRAL & HUDSON RIVER.—It is reported that work on the double tracking of the Harlem road, between Ghent and Mount Kisco, N. Y., will be started as soon as possible, probably in the course of a few days. Some 104 miles of track will be laid in connection with this improvement at a cost of about $650,000. W. J. Wilgus is Ch. Engr., Grand Central Station, New York.

NORFOLK & SOUTHERN.—Preparations are being made for the construction of a connecting link between the North Carolina Division and the Munden Point and

Information concerning contracts to be let or of supplies to be purchased, and corrections of errors and omissions in published items, are invited.

Virginia Beach Divisions of this road, which, when completed, will give the company its own line into Norfolk, Va. Surveys have been finished and the roadway is being cleared. M. K. King is Gen. Mgr., Norfolk, Va.

OLYMPIA, SHELTON & BREMERTON.—Article of incorporation have been filed by this company in Washington, with a capital stock of $1,000,000, to build a road from Olympia through Thurston and Mason counties to Shelton and Mason and Kitsap counties to Bremerton. Andrew J. McCabe, Chas. A. Murray and E. C. McDonald are interested. The principal office will be at Tacoma.

OZARK & CHEROKEE.—H. W. Seamon, Pres., has issued a call for the meeting of the stockholders at Fayetteville, Ark., at an early date, the object being to decide upon the matter of extending the line from Fayetteville across Washington county, Ark., to Jasper; also to construct roads from Muscogee to Fort Smith, Ark., and from Gibson to Joplin, Mo. The plans for these extensions have already been formulated.

PENNSYLVANIA R. R.—This company is reported to have arranged a loan of $35,000,000, which will be utilized in paying for some of the vast improvements soon to be carried out, and in meeting various other obligations.

PIGGOTT & NORTHWESTERN.—F. G. Taylor, Pres., Jonesboro, Ark., writes that 12 miles of this line have been surveyed and work will commence Feb. 2. The construction capital is not entirely secured, but contracts will likely be let in the next 60 days. The completed road will be 50 miles long.

RED DEER LAKE RY.—Application is being made to the Dominion Parliament by Hough & Campbell for authority to incorporate a company by this name, to build a line of railway from a point on the Canadian Northern Ry., between Swan River and Erwood stations to a point on Red Deer Lake, in the District of Saskatchewan.

ROCK ISLAND & SOUTHEASTERN.—Articles of incorporation have been filed by this road in Illinois with $100,000 capital stock, which proposes building a line from Rock Island to a point at or near Peoria. W. P. Kopf, Chas. A. Newton and Horace W. Nichols, Jr., Chicago, are among those interested. The Atchison, Topeka & Santa Fe system is suspected of being behind the road.

ST. LOUIS & SAN FRANCISCO.—J. F. Hinckley, St. Louis, Mo., writes us that there has been nothing done in the matter of the talked-of extension of the St. Paul branch eastward to Memphis, Tenn., or on the branch to Little Rock, Ark.

SOUTHERN INDIANA.—The stockholders of this company at a recent meeting at Bedford, Ind., authorized the extension of the road from Elnora to Evansville, a distance of about 75 miles. Preliminary surveys have already been made.

SPOKANE FALLS & NORTHERN.—Reports from Spokane, Wash., state that Mulliken Bros., contractors, have the contract for grading on 10 miles of new road for a change of route on this line.

SUFFOLK & CAROLINA.—An issuance of $500,000 in bonds will be made by this company to cover the cost of the extension of 17½ miles to Edenton, N. C., and one of 25 miles to Elizabeth City, N. C., at both points reaching tidewater outlets. It also covers the standard gaging of the entire road and the laying of new and heavier rails. The Edenton extension is completed, and with the completion of the line to Elizabeth City, there will be 75 miles of railway under the company's control. G. L. Barton is Gen. Mgr., Suffolk, Va.

TENNESSEE.—The J. M. Buck Lumber Co., Johnson City, Tenn., is said to be planning to build a branch line from Huntdale, on the South & Western R. R., to Burnsville, S. C., 22 miles distant. The line will follow the Cane River and some of its tributaries, and will run through a mountainous section of East Tennessee and Western North Carolina. It is stated that the officials of Yancey county, N. C., and merchants of Burnsville have offered to raise $50,000 for the extension.

TRINITY & BRAZOS VALLEY.—R. H. Baker, Vice-Pres. and Gen. Mgr., Austin, Tex., writes us that the rights of way and terminals have been secured from Cleburne to Mexia, Tex., a distance of 80 miles, on which construction is now under way. The steel is now on the ground and ties and timber are arriving; the entire section will be finished by July 15. S. A. Robertson, contractor, is doing the work. The money is on hand to build and equip the line without issuing bonds. J. H. B. House is Pres., San Antonio, and Benj. Thompson is Ch. Engr., Hillsborough, Tex.

VERMONT.—The railway committee of Montpelier and Rutland relative to the building of a new line of railway between those cities, have received a report from Engineers Throop, of Buffalo, N. Y., and P. S. Smith, of Montpelier, which places beyond question the entire feasibility of building such a line. The committees will meet shortly to take further steps. Joseph A. De Baer is chairman of the Montpelier committee.

VIRGINIA ANTHRACITE & COAL & RY. CO.—L. S. Randolph, Pres., Blacksburg, Va., writes that the grading is completed and all materials on hand for five miles of the line for this company, to be about nine miles in length, when completed. W. J. Kerr, Cambria, is Gen. Manager.

WELLAND & LAKE ERIE.—This company proposes building a road from Welland, Ont., south to the village of Port Colborne, and thence east to Fort East, on the Niagara River, opposite Buffalo, N. Y. Application for permission is being applied for to the Dominion Parliament by Gorman & Pettit, solicitors, of Welland, Ont.

WESTERN PENNSYLVANIA R. R.—A charter has been granted to this company at Harrisburg, Pa., for constructing a new line from Red Bank, Pa., to Pittsburg. The preliminary surveys have been completed, and the rights of way will now be taken up. The estimated cost of the road is $6,000,000. E. B. Taylor, Fourth Vice-Pres. Pennsylvania R. R., is president of this company.

ZANESVILLE, MARIETTA & PARKERSBURG.—Rufus C. Burton, Zanesville, O., a director of this company, is reported to have said that orders will be given out shortly for building this new line. J. A. Blair, Pres., who will supervise the construction of the new road, has now before him all the plans, surveys, profiles and specifications for the purpose of finally locating the route, preparatory to beginning operations.

STREET AND ELECTRIC RAILWAYS.

VERGENNES, VT.—J. J. Flynn, Burlington, is promoting a line of electric railway in this vicinity, and has secured a site on Otter Creek, where the power will be developed.

LOWELL, MASS.—The Chelmsford selectmen have granted a franchise to the Lowell & Fitchburg Ry. Co. in that town.

MIDDLEBORO, MASS.—R. M. Bearse, Middleboro, informs us that petitions are now being made for the location of the Sandwich, Hyannis & Chatham St. Ry. The company has not yet chosen its officers.

WORCESTER, MASS.—A. W. Woods, Ch. Engr. Worcester & Northern St. Ry. Co. writes us that the preliminary surveys for the line from Holden to Princeton and Westminster, some 12 miles, are now being made and most of the rights of way have been secured. The construction capital is also secured, but no contracts have been let. This road will connect with the Worcester & Holden St. Ry. (now building) on the south, and with the Fitchburg, Westminster & Gardner road on the north. The cable road to the top of Wachusett Mountain will be a part of the system. A. B. R. Sprague, Worcester, is Pres.

WOONSOCKET, R. I.—An act to incorporate the Western Rhode Island Ry. Co. has been introduced in the senate. The proposed company will be controlled by the Providence & Danielson R. R. and be run in conjunction with it. It is proposed to start the new line from Cowesett Bay, near Apponaug and run through the towns of Warwick, Scituate, Coventry, Smithfield, Gloucester and Burrillville to Wallum Pond. Franklin P. Owen, George W. Prentice and James S. Kenyon are named as incorporators.

CANASTOTA, N. Y.—The Oneida Ry. Co. has applied to the village board of trustees for a franchise to extend its road through East Hickory St., in this village.

HOOSICK FALLS, N. Y.—Geo. E. Greene, Pres. Bennington & Hoosick Falls Ry. Co., writes that the capital for constructing the extensions of the company's system has not yet been provided. Surveys and franchises have been secured.

MINEOLA, N. Y.—The county supervisors have granted two franchises to the New York & Long Island Traction Co., one being for a line along the Jericho turnpike in North Hempstead and the other for a line in Hempstead.

NEW YORK, N. Y.—The Interurban Co., lessee of the Metropolitan St. Ry. Co., will begin the work of installing an electric equipment on three of its crosstown branches and one of its trunk lines, in accordance with the plans adopted some time ago for gradually abolishing horse cars. The programme of improvements involve an expenditure of some $5,000,000.

NEW YORK, N. Y.—The West 86th St. Ry. Co. of New York has been incorporated to build and operate an electric street railway, 2,000 ft. long, on West 86th St., from Eighth to Amsterdam Aves. The capital stock is $10,000. D. B. Hasbrouck, Brooklyn; Denis O'Brien, New York, and F. D. Edmunds, Flushing, are incorporators.——The Bush Terminal R. R. Co. of Brooklyn, with $10,000 capital stock, has been incorporated to construct and operate a street surface railway by electricity from 41st St. and First Ave. to 60th St., Brooklyn, a distance of one and a quarter miles. Irving T. Bush, Thomas C. Houton, R. Gould Simonds and Joseph Nash, New York, are interested.

SENECA FALLS, N. Y.—H. F. Bell, Boston, a representative of the Eastern capitalists, who propose building a trolley road from Ithaca through to the north end of the county, has recently gone over the ground. The road is considered a business necessity and will likely be built.

SYRACUSE, N. Y.—The Syracuse Rapid Transit Ry. Co. has filed certificates of four extensions of route in this city. E. G. Connette, Syracuse, is Gen. Mgr.

TROY, N. Y.—J. N. Paige, Secy. Forest Park Ry. Co., 14 State St., writes that a survey has been made and the maps are being completed for the line of about two miles in length. G. D. Baltimore is Ch. Engr.

ALLENTOWN, PA.—A charter has been granted to the company which will build the electric line from Boyerstown to Palm Station. The promoters are principally Boyerstown parties, and Dr. Thomas J. B. Rhoads is Pres.

CARLISLE, PA.—The York & Gettysburg St. Ry. has been incorporated by C. C. Basehore, E. M. Biddle, J. and J. S. Shapley to build a road from York to Gettysburg via East Berlin.

LANGHORNE, PA.—The Philadelphia & Langhorne St. Ry. Co., chartered June 1, 1901, has filed plans in Harrisburg for the extensions of its line from Somerton to Feasterville, and thence to Willow Grove by way of Woodmont. The company has secured all the rights necessary.

PHILADELPHIA, PA.—It is stated that Appleton & Burrell, 1204 Chestnut St., are taking sub-bids for the improvements at Sutherland and Schuylkill Aves., for the Philadelphia Rapid Transit Co.

PITTSBURG, PA.—John Q. Cochrane, Pres. Pittsburg & Allegheny Valley Ry., 1611 Keystone Bank Bldg., Pittsburg, informs us that the rights of way for this line have been secured, mostly over private property, and bids are now being taken for the construction. The road will run from Apollo through Vandergritt, Hyde Park, Leechburg and Arnold to near Kensington, a distance of 21 miles. All the electric plants en route have been taken over. The line will be operated electrically. J. B. Townsend is Ch. Engr.

WASHINGTON, D. C.—Local papers state that a movement is on foot to build a line of railway from Madison Court House to Orange, where connection will be made with the Southern and the Chesapeake & Ohio roads. The line will be about 15 miles long. A company will be formed by the parties interested.

JACKSONVILLE, FLA.—The Jacksonville Traction Co. has been incorporated with a capital stock of $400,000, to build and operate street railways in this city by electricity. G. W. Shooks, J. F. Cannon and Arthur F. Perry are incorporators. Surveys will be made as soon as possible and work will follow. Peter A. Degnan is Pres.

JACKSONVILLE, FLA.—J. H. Neff, C. E., 1614 Main St., Jacksonville, writes us that he wants the names of firms in New York and vicinity, which handle electrical supplies for the equipment of street railways.

MONTGOMERY, ALA.—The board of revenue of Montgomery county has granted a franchise to Wm. Berney and associates for a street railway in this city.

CHATTANOOGA, TENN.—J. W. McFarland, Supt. Chattanooga Electric Ry Co., writes that the surveys have been completed and the rights of way secured to the army post at Chickamauga Park, a distance of 12 miles. J. H. Warner is Pres.

NASHVILLE, TENN.—The McMinnville, Woodbury & Nashville Ry. Co. has made application to the County Court Traction Committee for a right of way over certain turnpikes and public roads. The proposed route is through Warren, Cannon and Rutherford counties to Smith Springs, thence to a connection with the Tennessee Central R. R. Work must be started within six months and be completed within two years.

LOUISVILLE, KY.—The Louisville & Interurban Co. has filed articles of incorporation with $500,000 capital stock, to build and operate electric lines in Jefferson, Shelby, Oldham, Bullitt and Spencer counties. The company is formed to carry out the plans of the Louisville Ry. Co., to build suburban lines. The plans include the building of a passenger station in this city. T. J. Minary, Attila Cox and Harry Bishop are among the parties interested.

BATAVIA, O.—The Cincinnati & Columbus St. Ry. Co. has been organized with a capital stock of $1,800,000, to build a line from Norwood to Washington C. H., passing through Milford, Stonelick and New Boston to Fayetteville. The Cincinnati terminus will be at Fourth and Sycamore Sts.

COLUMBUS, O.—The Cleveland, Richfield & Akron Transit Co., of Cleveland, has been incorporated with $10,000 capital stock to build or lease a railway between Barberton and Akron. D. Gundelsperger, R. J. Wood and Fred W. Greene are interested.——The Mansfield, Crestline & Galion Ry. Co., of Crestline, has filed articles of incorporation, with a capital stock of $10,000, to build an electric railway from Galion to Mansfield, passing through Richland and Crawford counties. Frank N. Wilcox, D. M. Glasscock and C. W. Collister are incorporators.

MT. VERNON, O.—The council has granted a franchise to the Evansville, Mt. Vernon & Uniontown Traction Co. to build an electric line within a year's time. The power house and machine shops will be located in this town.

SANDUSKY, O.—Local papers state that the Port Clinton-Peninsular Electric Ry. Co. has made application for a charter for its proposed line from Port Clinton to Marblehead and Lakeside via Oak Harbor and Elmore. Chas. I. York, Port Clinton, and Chas. M. Draper, Bowling Green, O., are interested.

TOLEDO, O.—The Toledo, Port Clinton & Lakeside Electric Ry. Co. has increased its capital stock to $1,800,000, and has awarded the contract to the Cooper Construction Co., Toledo, which concern agrees to build the road as far as Oak Harbor by July 4, and to Port Clinton by next fall.

TOLEDO, O.—I. N. Covault, Secy. Toledo, Columbus, Springfield & Cincinnati Ry., writes that the contract for building the line from Lima to Bellefontaine, some 40 miles, has been let to the United States Construction Co., Lima, O. Arrangements are now being made for contracting for the balance, from Bellefontaine to Columbus. The capital is arranged for. The first 20 miles will start operating about June 1. The road will run from Toledo to Lima, Bellefontaine to Columbus and from Bellefontaine to Cincinnati. It will be about 250 miles long, and be operated by electricity. Ellis Bartholomew, Toledo, is Pres., and W. R. Fay, Lima, Ch. Engr.

WELLINGTON, O.—The line of the proposed Ashland & Wooster R. R. will be equipped with both steam and electricity, and will run from Wooster to Ashland, thence to Oberlin and North Amherst, and finally to Lorain. The company, it is said, proposes to establish docks of its own at the lake front.

MARION, IND.—Everett W. Trook writes that the firm of Bundy, Clark & Trook has practically arranged for the funds for constructing the road from Bluffton to Kokomo via Marion and intermediate towns, and some franchises and rights of way have been secured. The line will be about 57 miles long. C. H. Bundy will be president and J. E. Clark, chief engineer of the line, both of Marion.

WARSAW, IND.—The council has granted a franchise to the South Bend, Elkhart, Warsaw & Winona Electric Ry. S. A. Collins is Gen. Mgr.

EAU CLAIRE, WIS.—The project of extending the electric railway of the Chippewa Valley Electric R. R. Co. between Eau Claire and Menominee is being considered by that company. President Appleyard has stated that the line will be built as soon as the franchise in the city of Menominee could be secured.

CEDAR FALLS, IA.—Work on the construction of the newly incorporated Cedar Falls & New Hartford Ry. will be started as soon as spring opens. The line will run from Cedar Falls to New Hartford. The capital stock is $300,000. John C. Welling, W. G. Buren and A. P. Humburg are interested.

OMAHA, NEB.—The Omaha, Decatur & Northern Ry. Co. has been incorporated with a capital stock of $1,000,000, to build an electric road through the counties of Douglas, Washington, Burt, Thurston and Dakota. The company's headquarters will be in this city. C. E. Burlow, A. M. Anderson and F. E. McNutt are interested.——It is reported that the Omaha & Council Bluffs St. Ry. will at once construct some 200 miles of suburban lines in Eastern Nebraska and West Iowa.

FARGO, N. DAK.—Geo. H. Rice, Secy. Fargo & Moorehead St. Ry. Co., Scranton, Pa., informs us that the company has completed surveys and has awarded the contract for building its line to A. H. Savage, St. Paul, Minn. The line will run from Fargo to Moorehead, and be about 10 miles long. G. E. Moffat, Fargo, is Ch. Engr.

BEAUMONT, TEX.—Bids are reported wanted by Ed. Kennedy, Beaumont Trust Co. Bldg., until March 1, for grading 19 miles of electric railway running from Beaumont to Sour Lake.

DALLAS TEX.—The Oak Cliff city council has granted a franchise to the Dallas & Oak Cliff Electric Ry., for operating lines of electric railway in Oak Cliff.

FORT WORTH, TEX.—Local papers announce that a meeting was held the week of Jan. 14 by the parties planning the construction of an electric line from this city to Sour Lake for the purpose of further developing the plains. The line can be easily constructed and will cost about $250,000.

LEONARD, TEX.—J. A. Thomas, Leonard, writes us that the electric railway project to build a line touching Leonard, Blueridge, McKinney and other towns is practically abandoned.

GUTHRIE, OKLA. TER.—The Mountain Park Electric Ry. Co., Mountain Park, has been incorporated with a capital stock of $50,000, to build an electric line from Wildman to Mountain Park, a distance of 15 miles. R. D. Simpson, S. J. Galena and J. C. Brown are interested.

SALT LAKE CITY, UTAH.—The county commissioners have received application from Geo. H. Matson and Chas. H. Kircher for an electric railway through Ogden Canyon, and have the petition under consideration.

COLTON, CAL.—W. R. Hervey has been granted a franchise for building a single or double track electric railway in this city.

PETALUMA, CAL.—The new lessee of the Petaluma St. Ry. is said to be contemplating extensive improvements. The present horse power will be supplanted by gasoline.

SANTA MONICA, CAL.—W. Hook and associates have been granted a 50-year franchise for a line of railway in the streets of this city.

SONORA, CAL.—The supervisors of Tuolumne county have been applied to by Herschel F. Lamarte, representing an Indiana company, for a franchise to construct and operate an electric railway system between Chinese station on the Sierra Ry. line and the western boundary of Yosemite Park. The survey was finished some months ago and much of the right of way secured.

ROSWELL, N. MEX.—Karl A. Snyder has been granted a franchise by the town board for a street railway, on which work must be started within 12 months. The franchise is for a period of 25 years.

Information concerning contracts to be let or of supplies to be purchased, and corrections of errors and omissions in published items, are invited.

LIGHT, HEAT AND POWER PLANTS.

AUBURN, ME.—The Deer Isle Acetylene Co. has been incorporated with $10,000 capital, to manufacture and furnish gas and electricity. Joseph Heaton, Auburn, is Pres.

LITTLETON, N. H.—It is said here that the Littleton Light & Power Co. will probably spend $50,000 in equipping a complete steam plant at the lower electric light station. Henry F. Green is Mgr.

BURLINGTON, VT.—The American Gas Co., F. H. Parker, Supt., is said to have made arrangements for installing four miles of street mains this spring.

ELMIRA, N. Y.—It is stated that the Potter Gas & Power Co., Steele Memorial Bldg., will establish a large power plant in this city. The power will be generated by a new process, invented by the promoters of the company.

PORT CHESTER, N. Y.—The Westchester Lighting Co. has secured the contract for lighting all of the main line stations of the N. Y., N. H. & H. R. R., from Woodlawn to Port Chester, and those on the branch line from Harlem River to New Rochelle.

TROY, N. Y.—The Burden Iron Co. is stated to have perfected plans for the construction of an electric plant.

WATERVLIET, N. Y.—The Watervliet Illuminating & Power Co. has been incorporated to furnish light and power in Colonie and Green Island, as well as in Watervliet. Eugene A. Ashley, Green Island (P. O. Troy), is one of the incorporators.

BORDENTOWN, N. J.—We are informed, under date of Jan. 17, that everything is yet open for the electric light plant which the Camden & Trenton Railway Co., care Geo. Perkins, Trenton, proposes to erect at this place.

CAMDEN, N. J.—The Lehigh Light & Power Co. has been incorporated with a capital of $200,000, to manufacture electricity for light, heat, etc. John A. McPeak, 419 Market St., is an incorporator.

BELLWOOD, PA.—G. L. Owens, Att'y., Tyrone, Pa., has for sale a fully equipped electric light plant in this place; population 3,500.

TURTLE CREEK, PA.—The borough council is considering the matter of a municipal light plant.

YORK, PA.—An ordinance for the establishment of a municipal light, heat and power plant has been introduced in the council by Albert W. Immel.

FREDERICK, MD.—It is said that the new owners of the Isabella gas works propose to rebuild the plant. Richard C. Congdon is Mgr.

BETHANY, W. VA.—The trustees of Bethany College, one of whom is Geo. H. Anderson, have taken steps toward building an electric plant at a cost of $5,000.

CHARLOTTE, N. C.—Samuel T. Stowe, of this place, is reported to be at the head of the Bluitt Electrical Development Co., which was chartered some time ago with a capital of $1,000,000. The company proposes to build a dam 29½ ft. high and 1,400 ft. long, and will develop 12,000 HP.

HICKORY, N. C.—M. E. Thornton, of the Thornton Light & Power Co., writes us that he bought the present plant and franchise on Jan. 1, and will reorganize under a new charter with the same light and power franchise, and add ice manufactury and cold storage, and probably a street railway line of eight or nine miles. Contracts will probably be let about May 10 for the work. The plant is to be operated by steam and is to have a capacity of 25 arc lights of 2,000 c. p. each and 1,200 incandescents of 16 to 32 c. p. each. The estimated cost of the plant is $12,000 to $15,000.

MANNING, S. C.—W. Scott Harvin has obtained an electric plant franchise and is already putting up poles for his service lines.

HAWKINSVILLE, GA.—It is proposed to issue bonds for a better electric light service and a complete waterworks system.

ST. FRANCISVILLE, LA.—Bids are asked until Feb. 18 for an electric light plant and water-works, as is stated in our advertising columns. C. H. Jenks, Engr., Fayette, Miss.

CHATTANOOGA, TENN.—The legislature will probably be asked to allow the issue of $125,000 of bonds for a municipal electric light plant.

LEWISBURG, TENN.—The Braid Electric Co., Nashville, Tenn., has been awarded the contract for putting in new electric lighting system for the city.

SPRINGFIELD, TENN.—A contract has been let to the Nashville Machine Works to put in an electric light system as soon as possible.

TRENTON, TENN.—The matter of a municipal lighting plant has been under consideration and Jackson & Omberg, Engrs., Memphis, made estimates, etc., for such a plant.

LEXINGTON, KY.—The light and water committee will recommend that $25,000, instead of $21,000, be set aside for street lighting this year.

PORTSMOUTH, O.—Reports state that Chillicothe St. merchants, among whom are G. W. Anderson & Sons, are asking for a franchise for an electric light plant.

TOLEDO, O.—Jos. G. Halaplens, Gen Mgr., writes us that the Capitse Light & Power Co., of Santa Fe, New Mex., is about to install a 5,000-HP. plant on the Pecos River for light and power purposes, and desires to hear from contractors to bid on the construction of the entire plant. The plant is to supply Santa Fe and Las Vegas with electricity, which is to be generated by water power.

BLUFFTON, IND.—Mayor John Mack informs us that bids will probably be received Feb. 11 for proposed $15,000 municipal light plant. He also writes that the waterworks and street lights are under the same roof, with sufficient room for four 100-HP. boilers and 85 street lights. A construction company will be employed to put in 150 and 200-HP. condensing engines and one 100 and one 200-KW. alternating, three-phase generators, with sufficient transformers and wire to operate 1,500 lights, also 100 30-L meters. Charles Craven is Cy. Clk.

BENTON HARBOR, MICH.—Mayor J. W. Conley writes us that nothing has been done toward a municipal lighting plant, other than to appoint committees to investigate and make recommendations. Alderman Gillette is one of the committee.

GRAND HAVEN, MICH.—The plant and franchise of the Grand Haven Gas Light Co. has been purchased by Wm. H. Lonitt and Stephen L. Munroe, who will, it is said, make some improvements.

HANCOCK, MICH.—Mayor A. J. Scott writes us that if an agreement as to electric lights cannot be reached between the city and the local company, a municipal plant will be put in.

MUSKEGON, MICH.—The Muskegon Traction Lighting Co. will, it is said, spend $100,000 this spring in the further improvement of its local property.

PORTLAND, MICH.—G. H. King, Pres., writes us that he does not think there will be any extensions of the municipal light plant this spring.

CHICAGO, ILL.—Plans are being drawn for a new substation for the Chicago Edison Co., to be located on the site of the old Electrical Building at Market and Washington Sts.——The Sanitary District trustees have authorized Isham Randolph, Ch. Engr., to call for bids for building power plant at Joliet and Lockport, on the line of the drainage canal. It is estimated that the cost of the work would be $4,000,000.

RUSHVILLE, ILL.—A special election is to be held March 10 to vote on a $15,000 bond issue for an electric plant.

GRAETTINGER, IA.—W. J. Derby writes us that an agreement was not reached with the council and as a consequence a lighting franchise was not granted to him as was reported.

MUSCATINE, IA.—The Citizens' Railway & Light Co. has offered to furnish the city with 150 all-night, everynight, 2,000-c. p. arc lights at $90 each per year.

DETROIT CITY, MINN.—This city has issued and sold $16,000 of bonds for the purchase of the local electric plant.

MINNEAPOLIS, MINN.—The following bids were received Jan. 23 for street lighting for 1903: Minneapolis Gas Light Co., $1 per 1,000 ft. for gas consumed, burners to consume 4 ft. per hour and not to exceed 4¼ ft., lamps to burn not less than 1,800 hours per year; attendance, etc., $4 per post per year, making the cost about $12.50 per post per year. Minneapolis General Electric Co., (A) 200 lamps all-night schedule (3,500 hrs.), $108.50 per lamp per year; 110 lamps moonlight schedule (2,000 hrs.), $82 per lamp per year; (B) 100 lamps all-night schedule (3,500 hrs.), $102 per lamp per year; 410 lamps moonlight schedule (2,000 hrs.), $82 per lamp per year; (C) 300 lamps all-night schedule (3,500 hrs.), $95 per lamp per year.

MORRIS, MINN.—A proposition for the purchase of the plant of the Fowler Electric Co. is being discussed. The company asks $16,000 for the plant.

PELICAN RAPIDS, MINN.—The council is to be petitioned to establish a municipal electric light plant.

VERNDALE, MINN.—Reports state that $7,000 of bonds are to be issued for the construction of an electric light plant. S. L. Frazier is Village Pres.

WINONA, MINN.—G. P. Coleman, Cy. Engr., writes us that the contract for the erection of electric light plant for the city was let Jan. 19, to W. I. Gray & Co., for $44,890.

MITCHELL, S. DAK.—M. M. Doyle is said to be considering a project for establishing a $25,000 gas plant in this city.

BIG TIMBER, MONT.—The Big Timber Electric & Power Co., in asking for a franchise, agree to spend $14,000 for a new stone building, install a 250-HP. Corliss engine, a new water wheel and to make other improvements. The company also offers to sell its plant to the city.

AUGUSTA, ARK.—Bids are asked by the water-works commissioners until Feb. 12 for an electric light plant and wells with pumps, as is described more fully in our advertising columns. Weatherford & Hildebrand, Engrs., Memphis, Tenn.

LITTLE ROCK, ARK.—It is stated that the Little Rock Street Ry. Co. will expend $50,000 on their new power house. J. A. Troswich is Ch. Engr.

ATLANTA, TEX.—Reports state that an electric light plant is soon to be built here.

FLATONIA, TEX.—The electric light plant here has been purchased by A. G. Kristek, Hollman, Tex., who will make some improvements.

FORT WORTH, TEX.—George W. Armstrong and others have applied for an electric light franchise.

GRANBURY, TEX.—Reports state that Earl Cogdell wants one kilowatt alternator, transformers, three arc lamps, 30, 40 and 50-ft. poles, about 1,000 16 and 32-c. p. lamps and all necessary wire and insulators.

PALESTINE, TEX.—J. S. Trittle, St. Louis, Mo., and R. A. Gray, Texarkana, Ark., have asked for electric light, gas and street railway franchises.

PORT ARTHUR, TEX.—Bids are asked by W. H. Lovegrove, Engr., until Feb. 7 for furnishing material and constructing electric light, water and ice plants.

WEATHERFORD, TEX.—The council has offered $40,000 for the light and water plant of the local water, light and ice company.

CANON CITY, COL.— It is reported that the Canon City Gas Co. will soon erect a gas plant. J. D. Taylor, Jr., is one of the directors.

CENTRAL CITY, COL.—The Seaton Mountain Light, Heat & Power Co., Idaho Springs, Colo., has asked for franchises in this city and Black Hawk.

DENVER, COL.—The Sheridan Electric Light & Power Co. has been incorporated with a capital of $175,000 by Thomas B. Whitted and others.

FLORENCE, COL.—Peter English, Boulder, Col., has asked for a franchise for supplying the city with artificial gas.

DINUBA, CAL.—The Mt. Whitney Power Co., Ben Maddox, Gen. Mgr., has offered to extend its light and power system to this place. A local committee, of which F. H. Wilson is a member, has been interviewing the citizens on the project.

LOS ANGELES, CAL.—Bids are asked by the Edison Electric Co. until Feb. 2 for constructing building at Coos power site on Kern River. F. C. Finkle, Ch. Hydraulic Engr., 124 E. Fourth St.

PORT RICHMOND, CAL.—H. B. Kinney, Supt., writes us that the plant purchased from the Richmond Light & Water Co. has been shut down and contract made with the Bay Counties Power Co. to use power from their line.

MANTI, UTAH.—The Sterling Coal & Coke Co., according to reports, intends to put in an electric light plant for its mines at Morrison.

BARRIE, ONT.—E. Donnel, Town Clk., writes us that debentures for $6,000 for electric light extension will be issued this spring; also debentures for $15,000 for cement walks.

BRANTFORD, ONT.—A. W. Moore and others, of Woodstock, have purchased the local gas works and will make extensive improvements to them.

BRIDGES

BOSTON, MASS.—A petition has been before the legislature that the Essex county commissioners be instructed to build a highway bridge over the Danvers River, between Salem and Beverly.——The State Board of Trade has declared in favor of new legislation to compel the city to construct the long delayed Northern Ave., and bridge across the Fort Point Channel.

PROVIDENCE, R. I.—The city and the N. Y., N. H. & H. R. R. Co. are reported to have entered into an agreement for the abolition of three grade crossings. To do this a new bridge is to be built at Acorn St., the estimated cost of which to the railroad company, for the bridge proper and approaches, will be about $155,000. The city will also contribute about $18,000 for street work.

NEW HAVEN, CONN.—The Secretary of War has signed a permit for the erection of a raised stationary bridge over the West River. The bridge will cost about $25,000.

WINCHESTER, CONN.—The Torrington & Winchester Street Ry. Co., according to reports, stands ready to build a bridge over Still River whenever this town gives them the right of way.

BROOKLYN, N. Y.—The local boards of Prospect Heights and Red Hook districts have approved the proposition for a new bridge over Gowanus Canal. It is proposed to replace the present Hamilton Ave. bridge with a structure sufficiently high to permit all save vessels with masts to pass up the canal. The cost of the improvement is estimated at $140,000.

CANAJOHARIE, N. Y.—Reports state that no bids were received by the State Superintendent of Public Works, Albany, N. Y., in answer to his advertisement for bids for constructing a canal lift bridge at Church St., Canajoharie.

LE ROY, N. Y.—Officials of the Buffalo & Depew trolley road, who wish to extend their line from Buffalo to Rochester, have agreed to build a new modern bridge over the Oatka at Main St., provided a franchise is granted them for their trolley route.

NEW YORK, N. Y.—The following bids were received by the aqueduct commissioners Jan. 20 for constructing 14 steel highway bridges across Croton Lake and its tributaries: King Bridge Co., 120 Liberty St., New York, $369,760; United Construction Co., Albany, N. Y., $374,070; Augustus Smith, 39 Cortlandt St., New York, $363,125; F. R. Long, Hackensack, N. J., $409,450.

NORTH TONAWANDA, N. Y.—It is said that the New York Central R. R. will soon start work on a double track bridge over the Erie Canal and Tonawanda Creek.

SCHENECTADY, N. Y.—The construction of a bridge to span Cotton Factory Hollow has been under consideration, and City Engineer Turnbull has secured an estimate of cost, which shows that a 300 ft. long bridge, with a 40-ft. road and 10-ft. walks on each side, can be built for $60,000.

UTICA, N. Y.—The council has passed an order directing the city engineer to proceed with the erection of a Howe truss bridge over the Mohawk, at Genesee St. The estimated cost of the bridge is $6,000. P. L. Schultze is Cy. Engr.

ELIZABETH, N. J.—A demand is to be made in May to Union county for the construction of a bridge over the Elizabeth River at First St. Middlesex county is said to have already signified its willingness to pay its share of the cost.

CHAMBERSBURG, PA.—Nelson & Bucharan, of this city, have received a contract at $34,900, for constructing a stone and steel bridge over the Shenango River, at Pulaski.

DARBY, PA.—This place, according to reports, needs a new bridge over the creek near the Buttonwood Hotel.

DAUPHIN, PA.—Surveys have been under way for the new P. R. R. bridge which is to cross the Susquehanna River from this place to Marysville. It is said that the bridge will be of steel, two tracks wide, and will be used for the transportation of Baltimore tidewater freight directly to the new yards at Enola.

JEFFERSON, PA.—Viewers will soon file a report at the Dauphin county seat regarding a new bridge over Fork's Creek in this township.

LYKENS, PA.—Viewers are soon to report regarding the construction of a new bridge over a branch of Little Winiconisco Creek in this township.

MONESSEN, PA.—A bill has been presented by Representative E. F. Acheson, of Washington, Pa., to authorize the Donora Southern Ry. Co. to construct and maintain a bridge across the Monongahela River, between points in Carroll township, Washington county, and a point in or near the Borough of Monessen, Westmoreland county.

NORRISTOWN, PA.—Owners of industries along the Norristown shore are said to have petitioned the council to oppose the present plans for the Reading R. R. bridge, now in course of construction, and to require alterations costing $90,000 to do away with all dangers of ice jams or of daming the waters in case of floods.

WILLIAMSPORT, PA.—Local reports state that the contracts, let Dec. 31, for constructing the Montgomery and Franklin township bridges, have been cancelled by the county commissioners, on the ground that they were too high.

CUMBERLAND, MD.—The contract for constructing bridges over George's Creek, at Morrison's, and Bartlett's Run, near Barton, has been let to the Penn Bridge Co., for $2,495; the contract for bridges over Flintstone Creek, near Gilpentown, and over Braddock Run, has been let to the Riverside Bridge Co., for $3,078. Nelson & Buchanan secured the contract for a bridge over Sideling Hill Creek, near Trail's Mill, for $2,240.

ELLICOTT CITY, MD.—The contract for an iron bridge over the Patapsco at Benson's Ford, has been let to the York Bridge Co., York, Pa., for $1,200.

NORTH EAST, MD.—The contract for a new 120 ft. clear span iron bridge at this place has been let to the York Bridge Co., York, Pa., for $7,248.

WASHINGTON, D. C.—Secretary Root has approved the plans and specifications for the proposed Potomac River highway bridge. The plans and specifications were made by Col. Chas. J. Allen, U. S. Engrs., and provide for a steel truss highway bridge, consisting of eleven fixed spans of 216 ft. each, from center to center of piers, or 211.5 ft. from center to center of end pins, and one swing span of 290 ft. in length, supported by twelve piers and two abutments of granite and concrete masonry, all with pile foundations.

GENEVA, ALA.—Representative Clayton has introduced a bill to authorize the county commissioners to construct a bridge across the Choctawhatchie River in Geneva county.

CLARKSVILLE, TENN.—Reports state that arrangements are being made by the Louisville & Nashville R. R. Co., to commence work this spring on the proposed improvement of the draw of the Cumberland River bridge. The cost of the work is estimated at between $50,000 and $75,000. F. Ingram is Supervisor of Construction of the Memphis Division.

KINGSTON, TENN.—An injunction suit has been filed to prevent the construction of three steel bridges over the Tennessee, Clinch and Emory Rivers, ordered by the county court at its recent session. At that time the cost of the work was estimated at $100,000, and a bridge committee, of which W. T. Gallaher is a member, was appointed to supervise the work.

Information concerning contracts to be let or of supplies to be purchased, and corrections of errors and omissions in published items, are invited.

MEMPHIS, TENN.—It is reported here that the Southern Railway Co. will replace all the old bridges from Asheville to Jellico, via Knoxville, with new steel bridges, and also lay 80-lb. rails. C. H. Ackert, Washington, D. C., is Gen. Mgr.——It is also reported that the Luxora branch of the Frisco system, which is being rebuilt as a part of the Frisco's Memphis-St. Louis trunk line will be equipped with steel bridges over all the streams between Marion, Ark., and Luxora. A. S. Blodgett, Springfield, Mo., is Supt. Bridges and Buildings.

AKRON, O.—The Osborn Engineering Co., Cleveland, O., has completed the working plans for the proposed Mill St. viaduct. The plans provide for a concrete and steel structure, 765 ft. long, 52 ft. wide, and 21 ft. above the present grade of Mill St. The cost is estimated at $135,000. John W. Payne is Cy. Engr.——The council has passed an ordinance for the construction of a new bridge to replace the old railway structure on Perkins St.

BRIDGEPORT, O.—Bids are asked until Feb. 18 for $12,000 bridge bonds.

CINCINNATI, O.—The board of public service has taken under advisement the matter of building the proposed Ida St. steel viaduct. The structure, according to the report of H. J. Stanley, Cy. Engr., is to be 440 ft. long, made up of two truss and four girder spans, with the superstructure supported on braced steel columns resting on masonry or concrete piers, with abutments at each end. The roadway will be paved with asphalt and will have a double track street railway. The sidewalks will be of cement and be 6 ft. wide. The roadway will be 32 ft. wide. The cost of the viaduct is estimated at $72,500.

CLEVELAND, O.—Ritchie & Ruppie, Engrs. have let the contract for a heavy timber trestle on concrete foundations to F. C. Smith for the timber work, and to Ferrel & Otter for the 520 yds. concrete foundation.

PORT CLINTON, O.—The Ottawa county commissioners have been authorized by the Toledo, Port Clinton & Lake Side Electric Ry. Co., to get plans for a 22 ft. wide bridge over the Portage River, at Oak Harbor. The present structure is composed of two spans, each 150 ft. long, and a draw span, 138 ft. long.

PORTLAND, MICH.—The board of supervisors has given their consent to the erection of a bridge across the Grand River, on the line between Darby and this place. The cost will be about $4,000.

DE WITT, ILL.—It is stated that a 170 ft. bridge is to be built over Salt Creek in this town.

MT. CARMEL, ILL.—Stock to the amount of $70,000 is said to have been subscribed for a wagon bridge across the Wabash River at this place. The bridge will cost $100,000.

PORTAGE, WIS.—C. E. Corning, County Surv., writes us that the town of Lewiston is to build a steel bridge across the Big Slough, at Menomenee House, as soon as possible. The county is to pay half the cost. O. C. Cushman, Lewiston, Wis., is Chn. Bd. Supervisors, and H. H. Jackson, Portage, is Clk.

HARLAN, IA.—The Shelby county supervisors have let the contract for the yearly bridge work to the Canton Bridge Co., Canton, O., at $3.60 to $3.66 per foot.

WATERLOO, IA.—One bid was received for the construction of county pile bridges during 1903, and as this was in excess of the estimate, the matter was referred to a committee to arrange the contract for the work.

ST. PAUL, MINN.—The contract for constructing the abutments for the new Arcade St. bridge has been let to Neumann & Hoy, for $23,369.

WICHITA, KAN.—The Commercial Club has started a movement for a new stone bridge across the Arkansas River on Douglas Ave., to replace the present iron structure.

KANSAS CITY, MO.—Engineers of the Missouri Pacific R. R. have been engaged on plans for the proposed Lydia Ave. viaduct.

BONHAM, TEX.—The contract for constructing six steel county bridges has been let to M. S. Hasie for $3,020.

OKLAHOMA CITY, OKLA. TER.—Reports state that a $7,000 viaduct is to be build over the Choctaw tracks.

TULSA, IND. TER.—Permission has been given to the Santa Fe R. R. Co. to bridge the Arkansas River at this place.

MILL VALLEY, CAL.—The citizen's committee has recommended a bond issue of $5,000 for bridge, street, and sewer work.

STOCKTON, CAL.—The contract for constructing the Miller's Ferry bridge has been let to A. W. Burrell, Oakland, Cal., for $13,984.

RED BLUFF, CAL.—The supervisors have been petitioned to erect a bridge over Iron Canyon.

REDDING, CAL.—Plans and specifications have been presented to the supervisors by Alfred Baltsell, C. E., for proposed Pit River bridge at the Big Bend. The plans call for a steel structure of the Pratt truss pattern, 147 ft. long. The cost is estimated at $5,500. A profile and estimate for a bridge across Pit River at Wyndham Ferry was also presented. The bridge proposed was to be three spans of 100, 200 and 80 ft., and the estimated cost was $11,000.

BUILDINGS.

SEBAGO, ME.—Local press reports state that preliminary plans have been made toward the erection of a large hotel on Indian Island, in Sebago Lake. The proposed hotel will be called the Hawthorne Inn.

LYNN, MASS.—Frank Marshall, Gen. Secy., informs us nothing will be done for six months or a year toward the erection of the Y. M. C. A. building.

BINGHAMTON, N. Y.—The Binghamton St. Ry. Co. will erect a mammoth street car barn in State St. J. P. E. Clark, Supt.

BROOKLYN, N. Y.—The plans for an addition to the Williamsburgh Savings Bank have been completed by Helmle, Huberty & Hudswell, Archs. The entire exterior of the building will be of plain polished granite, while the interior will be of Ohio sandstone.

BUFFALO, N. Y.—The Buffalo Realty Co. will erect a 6-story building on the site of the Tifft House block. The building will be of stone with terra cotta trimmings, 136 × 95 ft. Estimated cost, $700,000.——It is reported that eight new schools will be built in addition to the ten now under construction.

BUFFALO, N. Y.—Bids are asked until Feb. 5 for the construction of a 6-room brick addition to the school in District No. 58. Francis G. Ward, Comr. Pub. Wks.

HORNELLSVILLE, N. Y.—The enlargement of the city hall is being considered by the city officials.

JAMESTOWN, N. Y.—Bids are asked until March 9 for installing a conduit and electric wiring system in the U. S. post office, as stated in our advertising columns. James Knox Taylor, Supervising Arch., Washington, D. C.

NEW YORK, N. Y.—Bids will be received by the police commissioner of the Police Dept., at 300 Mulberry St., until Feb. 6, for installing a low-pressure steam heating apparatus in the Fifth Precinct Police Station, 9 Oak St. Francis V. Greene, Police Comr.——Plans for the new 71st Regiment Armory, at Fourth Ave. and 31st St., to cost $650,000, were approved. Favorable action was also taken by the Armory Board on the plans for the new Second Naval Battalion Armory, in First Ave., between 51st and 52d Sts., in the borough of Brooklyn. The cost is estimated at $225,000.—The board also decided that $350,000 would be insufficient for the new 69th Regiment Armory, consequently $100,000 more will be asked for.——At the annual meeting of the organization which supports the Hebrew Technical School for Girls, at 267 Henry St., it was decided to erect a new building near East 14th St.; $100,000 has already been subscribed for the structure. The new trustees are Simon Guggenheim, Ludwig Dreyfus and Geo. Blumenthal.

NEW YORK, N. Y.—Plans have been filed by Sass & Smallheiser, Archs., 23 Park Row, for a 6-story brick tenement, 50 × 86 ft., at 93-95½ Clinton St., for L. Lippman, 170 East 103d St., to cost $45,000; by W. Wheeler Smith, Arch., 7 Wall St., for a 4-story brick nurses' home, 70 × 34 ft., on North Brother Island, for the city, to cost about $40,000; by Moore & Landseidel, Archs., 148th St. and Third Ave., for three 6-story brick tenements, 34 × 80 ft., at 158th St., west of St. Ann's Ave., for Lorenz Weiher, 76 East 86th St., to cost $80,000; by the Bronx Architectural Co., 3307 Third Ave., for a 5-story brick tenement, 41 × 93 ft., in Robbins Ave., for Patrick J. Owens, 887 Trinity Ave., to cost $35,000; by Buchman & Fox, Archs., 11 East 59th St., for a 4-story brick silk mill, 50 × 150 ft., at Park Ave. and Ittner Place, for Samuel T. Jacobs, 12 West 83d St., to cost $40,000; by G. F. Pelham, Arch., 503 Fifth Ave., for a 6-story brick apartment, 56 × 62 ft., at 196-200 Waverly Place, for I. Kammermann and M. Malbin, 922 Third Ave., to cost $50,000.

NEW YORK, N. Y.—Secretary Shaw transmitted to the House of Representatives a recommendation that an appropriation of $750,000 be made for the purchase of a site and the erection of a new building for the Assay Office.——A 4-story brick nurses' home is to be built on North Brother Island at a cost of $40,000. W. Wheeler Smith is the Arch.——Commissioner Lummis, who is chairman of the commitee on buildings, is outlining a plan to erect a 10-story fireproof school building on Grand St., between Ludlow and Essex Sts., that will accommodate 5,000 pupils and to install elevators capable of transporting a whole class at one trip.

NEW YORK, N. Y.—The Sheet Metal Mfg. Co., Niles, Ohio, has been awarded the contract for the metal ceilings throughout the entire 14 stories of the new Benton Building, this city.——A lot has been purchased at 3 West 34th St. for $600,000, upon which it is reported a bachelor apartment hotel will be erected.——The title of the old Brunswick Hotel site, at Fifth Ave., 26th and 27th Sts., has passed to the Brunswick Construction Co. They will erect a 20-story hotel, 197 × 130 ft., which will contain 1,100 rooms. The building will cost $3,500,000.

WEST SENECA, N. Y.—It is reported that the Moses Taylor Hospital is to be erected in this place.

NEWARK, N. Y.—A bill is soon to be presented to the legislature asking for an appropriation of $125,000 for an addition to the armory of the Essex Troop, of Newark.

TRENTON, N. J.—E. F. Durang, Arch., 1200 Chestnut St., Philadelphia, is taking bids until Feb. 2 for an addition to St. Francis Hospital. The building will be of stone, three stories, 50 × 150 ft.——J. B. McElfatrick & Son, 1402 Broadway, New York, are preparing plans for a theatre, to be built by O. D. Wilkinson. The structure will be a 3-story fireproof building, costing about $70,000.——A bill has been presented asking for an appropriation of $300,000 for the purchase of a site and erection of building for the New Jersey State Normal School.

EASTON, PA.—W. W. Michler, Arch., Drake Bldg., is preparing plans for an addition to an office building at 3d and Centre Sq. for J. M. Porter. It will be 6-story, built of brick and steel, and will cost $60,000.

LANGHORNE, PA.—Ballinger & Perrot, Archs., 12th and Chestnut Sts., Philadelphia, inform us that they have completed plans for a Sunday School building in connection with the Langhorne Presbyterian Church. The building will be built of local stone, 40 × 40 ft., and will be connected with the church by rolling shutters.

LEWISBURG, PA.—At a recent meeting of the board of trustees of the Bircknell University it was decided to spend $250,000 for improving the buildings.

PHILADELPHIA, PA.—The contract for an addition costing $45,000 to Green's Hotel, 725 Chestnut St., has been let to Cramp & Co., 1421 Filbert St.——Joseph Wharton, founder of the Wharton School of Finance and Economy is having plans prepared for the erection of a school building on Woodland Ave. and Locust St. It is reported that the ground will soon be broken and that the building will cost $200,000.

YORK, PA.—John W. Bittinger writes us that the plans for the addition to the jail have been submitted by J. A. Dempnoeff, Arch., but that nothing yet has been decided.

BALTIMORE, MD.—J. C. Gott, Arch., 218 N. Charles St., is preparing plans for a warehouse at 104 Light St. for Gottschalk & Co. The building will be four stories, brick and steel.——Baldwin & Pennington, Archs., 44 South St., writes us that the plans have not yet been completed for the new building of the Fidelity & Deposit Co.

BALTIMORE, MD.—Ellicott & Emmart, Archs., Union Trust Bldg., are taking bids for the erection of a warehouse at Lombard and Hanover Sts. The building will be a 9-story fireproof structure and will cost $150,000.

COLLEGE PARK, MD.—Owens & Sisco, Archs., Continental Trust Bldg., Baltimore, informs us that the contract for an administration building for the Maryland Agricultural College was to be awarded shortly after Jan 24, when the bids were to be opened.

WASHINGTON, D. C.—Harding & Upman, Archs., 1316 G St., are preparing plans for a Y. M. C. A. building at 17th and G Sts. It will be a 5-story brick and steel building, 75 × 110 ft., and will cost $175,000.——Wood, Dorn & Dening, Archs., 808 17th St., N. W., are drawing plans for the parochial school of St. Patrick's Church. It will be a 3-story stone building, and will cost $100,000.——The contract for an apartment house at 6th and E. Capitol Sts., for Dr. Wm. P. Hazen, has been let to James L. Marshall, 1321 G St., N. W., at $50,000.

WASHINGTON, D. C.—T. Franklin Schneider, Arch., intends to erect shortly an apartment at the S. E. corner of 15th and L Sts., N.W. It will be 7 stories high, 81 × 115 ft., containing 63 suites, at a cost of $200,000.——The same gentleman, associated with S. W. Woodward and E. S. Parker, will soon build a 42-suite apartment at the S. E. corner of Columbus Road and Mintwood Pl., to cost $200,000.——The Windsor Apartment House Co. will shortly erect a $125,000 building on 15th St., N. W., between S and T Sts. It will be fireproof, six stories in height, and 31 × 150 ft.——The Brunswick Apartment House Co., Lester A. Barr and Clarence B. Rheem, are preparing to build a 56-suite apartment house on the south side of I St., N. W., opposite Franklin Square. The building will be eight stories high, 72 × 144 ft., and fireproof.——Reports state that Thomas Gaff, of Oysterville, Mass., intends erecting a residence on his property at the S. W. corner of 20th and Q Sts., N. W. The lot is 88 × 98 ft.

MOUNDSVILLE, W. VA.—An addition to the penitentiary is being planned for by Warden Haddox. A bill asking for an appropriation of $100,000 has been presented.

WHEELING, W. VA.—Plans are being prepared by Giesey & Faris, Archs., for the erection of a large apartment house at Market and 9th Sts. The structure, which is estimated to cost $100,000, will be owned by a joint stock company, of which A. O. Smith, of the National Exchange Bank, is interested.

WILMINGTON, N. C.—The Odd Fellows are planning the erection of a building in this place to cost $50,000.

ATHENS, GA.—The plans drawn by Haralson Bleckley, Arch., for the new Peabody Library have been accepted by the trustees, and it is stated that work will soon be commenced.

ATLANTA, GA.—W. T. Healey, Pres. of the firm of Healey & Berry, writes us that the contract for their new 6-story building has not been let. Freight and passenger elevators will be installed.——Bruce & Morgan and Downing & Denny have been invited to submit plans for the 12-story building to be erected by Captain J. W. English on the old site of the Norcross Bldg.

MACON, GA.—Reports state that the appropriation of $306,000 for the erection of a new government building has been passed. The structure will be built of white enameled brick, made in this city from Kaolin clay.

BIRMINGHAM, ALA.—The plans drawn by Ullman & Thompson, Archs., for the erection of the Labor Temple are now in the hands of the commitee. The structure will be four stories, brick, 100 × 100 ft.——A new dormitory is being planned for the Boys' Industrial Home; an appropriation of $50,000 has been asked for the improvement.

MOBILE, ALA.—Bids are asked until Feb. 28 for building locks and dams Nos. 1, 2 and 3, Warrior and Tombigbee Rivers, Ala., as stated in our advertising columns. Capt. Spencer Cosby, U. S. Engrs.

NASHVILLE, TENN.—J. C. McLanahan has plans for a 7-story apartment building to cost $100,000. The structure will be built of brick with stone trimmings; freight and passenger elevators will be required.

CINCINNATI, O.—Work on the erection of the building at Walnut and Fourth Sts., for the First National Bank, is soon to be commenced. The structure will be 18 stories; the first three stories will be of heavy stone; following this will be 12 stories with brick facings, while the last three will be finished in terra cotta. Six elevators will be installed. As yet no contracts have been let. The estimated cost is $1,000,000.

TOLEDO, O.—At a recent meeting of the City Federation it was decided to build a $50,000 clubhouse.

INDIANAPOLIS, IND.—The National government is now engaged selecting sites for post office buildings in Anderson and Crawfordsville, and is perfecting titles to sites already purchased in the following places: Elkhart, Hammond, Logansport, Richmond and Vincennes.

INDIANAPOLIS, IND.—D. H. Burnham & Co. are preparing plans for a 9-story fireproof structure, to be erected for the Indianapolis Terminal Traction Co., at a cost of $300,000.

BANCROFT, MICH.—The people will vote this spring on the proposition to bond the county for $75,000 to erect a new court house.

CALUMET, MICH.—The congregation of St. Joseph Austrian Church will rebuild their church recently destroyed by fire. It will be a sandstone edifice, the construction of which will cost between $60,000 and $70,000.

FLINT, MICH.—Bids are being taken until Feb. 1 for the erection of a 3-story office building for the Knights of the Loyal Guard. F. H. Rankin, Secy.

BARTONVILLE, ILL.—R. B. Watson, Arch., 303 Dearborn St., Chicago, has completed plans for the Incurable Insane Asylum. The building will be three stories, 850 × 182 ft. It will accommodate 1,000 patients, and will cost $500,000.

CHICAGO, ILL.—Plans are being drawn by W. B. Mundie, Arch., 171 La Salle St., for an addition to the Home for Destitute Crippled Children. John Ridlon, Jr., may be addressed.

DIXON, ILL.—Congressman Hitt has introduced a bill asking for $100,000 to build a federal building in this place.

QUINCY, ILL.—It is stated that bids are being taken by the board of education until Feb. 25 for the erection of a school.

WATERTOWN, ILL.—The plans for the building to be erected in connection with the Western Hospital for the Insane have been completed by Robt. B. Watson, Arch., 303 Dearnborn St., Chicago. The building will be fireproof in construction, covering an area of 425 × 100 ft., and will cost $250,000.

MILWAUKEE, WIS.—Alderman Meredith will introduce an ordinance in the council, asking for a bond issue of from $50,000 to $75,000 for a school house in the 17th Ward.

REEDSBURG, WIS.—Wm. Riggert informs us that the proposition to build a new court house was defeated by the county board.

LAWRENCE, KAN.—Bids are reported wanted by the commissioner of Douglas county until Feb. 10 for the erection of a $80,000 court house.

HELENA, MONT.—Bids are asked by the supervising architect, Treasury Dept., Washington, D. C., until March 3, for steam heating and mechanical ventilating apparatus for the U. S. public building at Helena. James Knox Taylor, Supervising Arch.

FULTON, MO.—The board of managers of the Missouri School for the Deaf has asked the state legislature for an appropriation to build a new school and a boys' dormitory at a cost of $60,000.

ST. LOUIS, MO.—The following contracts were let for the building of the new school at Virginia and Loughborough Aves.: General work, Gerber Bros., $128,546; plumbing, Geo. T. Meyer & Bro. $6,900; heating and ventilating, J. J. Cullen Heating Co., $12,939.——Plans are being prepared for the neristyle apartment building on Lindell Boulevard, owned by the Greer-Anderson Realty Co. The structure is to be four stories, 152 × 178 ft. In the sub-basement a heating and refrigerating plant will be installed.

WARREN, ARK.—W. L. Turner, Comr., informs us that the contract for the erection of the new Bradley county court house was awarded to E. L. Koonce, at $37,645. The only other bid received was that of Batman & Atkinson, of Pine Bluff, at $38,590.

Information concerning contracts to be let or of supplies to be purchased, and corrections of errors and omissions in published items, are invited.

PINE BLUFF, ARK.—An opera house costing $40,000 will be erected in this place. R. H. Hunt, of Chattanooga, Tenn., is the architect.

GALVESTON, TEX.—The Jesuit Fathers will rebuild their church at a cost of $50,000. Rev. Father Murphy is pastor.

CHILOCCO, OKLA.—Bids will be received at the office of Indian Affairs, Washington, D. C., until Feb. 19, for the building of a stone dormitory at the Chilocco school. W. A. Jones, Comr.

GUTHRIE, OKLA.—Bids will be received at the office of L. W. Baxter, Supt. Public Instruction, until Feb. 14, for the erection of a school at Weatherford.

MUSKOGEE, IND. TER.—Sam T. McMurry, Recorder, informs us that a $50,000 school bond will be voted upon within the next 60 days.

FORT FLAGLER, WASH.—Bids are asked until Feb. 6 for constructing an addition to the guard house and the construction of a quartermaster storehouse. Capt. Geo. H. Pembros, Q M.

SEATTLE, WASH.—Bebb & Mendel, Archs., will soon complete plans for the new Hanin & Schmitz building. It will be six stories, built of pressed brick, with terra cotta trimmings.——The Seattle Athletic Club will erect a new building at a cost of $70,000; it will be built of pressed brick with stone trimmings. O. O. Denny is the architect.

TACOMA, WASH.—Russell & Heath, Archs., are preparing plans for a 3-story brick building for Wm. H. Snell at South 11th and C Sts. Plans are expected to be completed and ready for builders' figures by Feb. 15. It will be heated by steam, fitted with electric light and gas, and passenger and freight elevators will be installed.

WHATCOM, WASH.—This city has voted to issue $65,000 of school bonds.

ATHENA, ORE.—Bids are reported wanted until March 20 for a 2-story brick business block for N. A. Miller. Plans, which were drawn by C. E. Troutman, Arch., Pendleton, call for a building costing about $45,000.

EUGENE, ORE.—An election will be held Feb. 4 to vote on the issue of $35,000 school bonds.

SAN BERNARDINO, CAL.—The San Bernardino Opera House Co. have purchased a site on Third St., upon which they will erect a $75,000 opera house.

SAN FRANCISCO, CAL.—Adolph Steinberger will erect a hotel on Sutter St., to cost $70,000. It will be of pressed terra cotta, and will contain about 75 rooms; passenger elevators will be installed.

SAN FRANCISCO, CAL.—Plans have been completed by Charles J. Rousseau, Arch., for the erection of a 4-story apartment house for C. E. Knickerbocker, at Sacramento and Hyde Sts. The estimated cost is $50,000.

PHOENIX, ARIZ.—Bids will be received until Feb. 17 at the office of Indian Affairs, Washington, D. C., for the construction of a brick hospital, an addition to the dining hall and an addition to the boys' dormitory at the Phoenix Indian School. W. A. Jones, Comr.

LEWISTON, IDAHO.—The Masonic Temple Association has decided to construct a $50,000 building.

OGDEN, UTAH.—The government has purchased a site for the federal building, to be erected, which will cost $225,000.

VANCOUVER, B. C.—The West End Presbyterian Church will erect a new stone church at a cost of $30,000.

WATER SUPPLY AND IRRIGATION.

PORTLAND, ME.—It is reported that the Peaks Island Water Co. is considering the enlargement of its water mains.

RUMFORD FALLS, ME.—The matter of a municipal water system is said to be under consideration.

WALPOLE, N. H.—A bill has been before the state legislature to incorporate the Walpole Water & Sewer Co.

BEVERLY, MASS.—The committee on water-works has been inspecting Langham, looking to the matter of an increased water supply.

BROOKLINE, MASS.—F. F. Forbes, Supt. W.-W., writes us under date of Jan. 26, that contracts were being made for the material for the proposed new covered reservoir, which will be built by day labor employed by the water department. The estimated cost is $75,000, and it is to have a capacity of 6,800,000 gallons. Mr. Forbes is the designing engineer.

CONWAY, MASS.—The Conway Water Co., to supply water for fire and domestic purposes, has petitioned for incorporation. The bill provides for a capital of $30,000, and John B. Laidley is one of the petitioners.

GREAT BARRINGTON, MASS.—T. H. McKenzie Hydraulic Engr., Hartford, Conn., has made two estimates of cost for a gravity water supply, one from the Soda Springs source, the cost of which is given at $152,520, and the other from the Goodsle Brook supply, the estimated cost of the latter being $132,606.

MARLBORO, MASS.—Attorney General Parker has notified the city that legal action would be taken by the State if abatement was not made in the pollution of the water of Sudbury basin of the Metropolitan system by a brook in Marlboro.

NEWBURYPORT, MASS.—The water commissioners have been taking steps to increase the city's water supply, and with this end in view have sunk several artesian wells.

SALEM, MASS.—The water board, of which Alderman F. F. Newell is president, has voted to ask for $25,000 to buy new iron pipe to replace the old cement-lined pipe.

SCITUATE, MASS.—The Scituate Water Co. has petitioned for legislation to increase its capital and bonds.

SHIRLEY, MASS.—The village, acting through D. Chester Parsons, has asked for a legislative act providing for a municipal water supply and authorizing the formation of the Shirley Village Water District.

WALTHAM, MASS.—The superintendent of water-works has asked for $8,000 for water-works construction.

MILFORD, CONN.—A special town meeting was held last week to vote on contracting with the Milford Water Co. for a supply for the next ten years.

RIDGEFIELD, CONN.—A petition has been filed with the Secretary of State by Geo. M. Olcott and others asking the repeal of the charter of the Ridgefield Water Supply Co. One of the claims of the petitioners is that the company does not furnish an abundant supply of water.

HORSEHEADS, N. Y.—A. G. Eisenhart, Village Pres., writes us that the board of trustees are making arrangements with a view to perfecting plans for a water system, so as to go ahead the coming year. A local press report states it is proposed to get the water from springs above Breeseport at a cost of about $100,000.

LANCASTER, N. Y.—The trustees are said to be discussing the matter of municipal water-works.

LE ROY, N. Y.—Local reports state that the present water supply is inadequate to the needs of the village.

LONG ISLAND CITY, N. Y.—Plans are reported to be under way and specifications have been prepared for the entire overhauling and reconstruction of pumping stations 1 and 3 in this city, and plans and specifications are nearly completed for the additions and enlargements of the College Point and Bay Side pumping stations.

NEW ROCHELLE, N. Y.—The capital of the New Rochelle Water Co. has been increased from $80,000 to $2,450,000. Adrian Iselin is a director.

PAINTED POST, N. Y.—A special election was held here Jan. 26 to vote on the issuance of $25,000 of bonds for water-works.

TONAWANDA, N. Y.—The American Cabinet Co. is said to be interested in a project for forming a water company to supply the new village of Elmerton. George Davis is Manager of the Cabinet Company.

YONKERS, N. Y.—The water commissioners have selected a consulting engineer for the construction of the proposed $35,000 works, and he has been ordered to prepare plans and specifications as soon as possible.

JERSEY CITY, N. J.—Engineer Goodwood Ferris has suggested to the street and water board that instead of laying a new pipe line under the Hackensack and Passaic rivers, a portion of the old pipe line be laid to Belleville, thus insuring a water supply from that source should the new pipe line give way.

LAUREL SPRINGS, N. J.—The Laurel Springs Water Co. has acquired control of Crystal Springs and will use them as the nucleus of a water plant.

SCOTCH PLAINS, N. J.—It is reported that the Plainfield Water Supply Co. is to lay a main to this town. T. J. Nichols is Pres. Township Com.

BETHLEHEM, PA.—Reports state that the source of the local water supply has been contaminated by sewage.

MARCUS HOOK, PA.—The Crystal Water Co., Bay St., Stapleton, N. Y., will build new water-works at this place, and are now taking bids on new equipment.

ROYERSFORD, PA.—The stockholders of the Home Water Co. will vote on a proposition to increase their capital stock from $60,000 to $150,000 on March 23.

STEWARTSTOWN, PA.—Chas. S. York, H. E., 1526 E. Biddle St., Baltimore, Md., has been engaged to make the plans and specifications for the water-works at Stewartstown, Pa. He will be ready for the contractors about March 1.

WILMINGTON, DEL.—A ground plan of the site of the proposed William T. Porter reservoir site has been made for the water commissioners.

BALTIMORE, MD.—Water Engineer Quick has submitted to the reservoir commission plans showing the five sites which are under consideration for the reservoir.

MARION, S. C.—The Marion Water, Light & Power Co. has been organized to construct a complete system of water-works, electric lights and sewerage.

GEORGETOWN, S. C.—J. J. Hazard, Secy. Bd. Pub. Wks., writes us that the contract for boring an artesian well has been let to Hughes Speciality Well Drilling Co., Charleston, S. C., at the following prices: 200 ft., $5 per ft.; 500 ft., $5 per ft.; 750 ft., $6.20 per ft.

BROOKFIELD, MISS.—It is possible, says a local press report, that the city will ask that a receiver be appointed to take charge of the city water-works and run the plant until the differences between the council and Joseph Burns, of Lincoln, Neb., can be settled.

MERIDIAN, MISS.—The council has decided to build a municipal water system, the local water company having refused to sell its plant for the $225,000 offered by the council.

BATON ROUGE, LA.—A resolution has been presented to the council to declare the contract with the City Water-Works Co. null and void and to call for bids for furnishing the city water during 1903 and until a complete system can be constructed or acquired by the city. R. Swart is Cy. Engr.

RAYNE, LA.—Bids are asked until Feb. 2 for constructing a municipal water and electric light plant. Wm. Mackintosh, Cons. Engr., Jennings, La.; O. Bronsard, Mayor.

ST. FRANCISVILLE, LA.—Bids are asked until Feb. 18 for constructing a system of water-works, as is stated in our advertising columns. Bids are also asked upon an electric light plant. C. H. Jenks, Engr., Fayette, Miss.; Jos. L. Goisan.

DYERSBURG, TENN.—This city is seeking to issue $60,000 of bonds for water-works, electric lights and sewers.

MEMPHIS, TENN.—E. B. Lemastre, Chn. Water Com., writes us that a meeting of the committee was to be held Jan. 27 to consider offers for the $1,250,000 of bonds proposed to be issued contingent upon securing proper legislation.

SMITH'S GROVE, KY.—A water-works franchise here has been granted to J. R. Kirby.

BARNESVILLE, O.—An estimate of the probable cost of water-works here has been made by Jno. P. Force, C. E., Columbus, O., and Jan. 19 an election was held to vote $75,000 for their construction. E. N. Wilkes is Village Clk.

BROOKVILLE, O.—Ira V. Miller, Village Clk., has filed a suit asking that a writ of mandamus be issued to compel Mayor Chas. S. Price to sign an ordinance to provide for the issuing of bonds for water-works.

CINCINNATI, O.—The city has recently disposed of a $1,000,000 water-works bond issue.

FINDLAY, O.—Bids are asked until Feb. 12 for material and labor for constructing a conduit waterway at the pumping station, as is described more fully in our advertising columns. Wm. Demland, Secy.

HARTWELL, O.—Bids are asked until Feb. 2 for furnishing a supply of water for a term of ten years. Chas. W. Spraul, Village Clk.

MILFORD, O.—A special election has been set for Feb. 21 for voting on the issuance of $25,000 of bonds for new water-works.

SERRING, O.—Mayor James Gibbins writes us that a private concern, composed of Pittsburg parties, has bought the local water-works and is putting in a new pumping station and stand-pipe under the supervision of the superintendent.

EVANSVILLE, IND.—Bids are asked until March 1 for sale of a 2,500,000 gallon Worthington compound duplex pump, two 3,000,000 gallon Gordon compound duplex pumps, also 500,000 gallon Gordon duplex pump. All in good order. Chas. J. Thuman, City Water-works.

OAKLAND CITY, IND.—This city is considering the erection of water-works, and a committee, of which David Ingle, Jr., is a member, has been appointed to get ideas for the same.

RUSHVILLE, IND.—A new water-works system is one of the proposed improvements at the county asylum.

CHICAGO, ILL.—Chief Engineer Hill, of the board of local improvements, has been engaged on plans for a large pumping station at 71st St. and Jackson Ave., which will cost about $50,000, exclusive of equipment.

CRETE, ILL.—A proposition is to be voted on at the spring election to issue $7,000 or $8,000 of bonds for building water-works.

KEARNEY, ILL.—Since the recent fire this place has been discussing the question of water-works. It is thought that a system could be put in for $12,000.

ALGOMA, WIS.—Reports state that bids are to be asked soon for water-works, plans and specifications for which have been made by John A. Cole & Son., 1585 Old Colony Bldg., Chicago, Ill. Michael Melchior, Jr., is Cy. Clk.

CUBA, WIS.—J. Stephens writes us that the contract for making extensions to the old water-works has been let to the Chicago Bridge & Iron Co. for $4,100.

FOND DU LAC, WIS.—The Fond du Lac Water Co. is said to have offered to sell its plant to the city.

MENOSHA, WIS.—The local press is advocating the establishment of water-works.

LANSING, IA.—City Attorney Conway has been authorized to issue $16,000 of bonds for water-works.

PRINGHAR, IA.—Mayor P. R. Bailey writes us that the contract for a compressed air system of water-works has been let to the National Construction Co., South Bend, Ind.; they are to furnish everything.

SIOUX CITY, IA.—F. W. Cappelen, Minneapolis, Minn., has been employed to examine the local water-works and to report regarding their improvement and extension. G. B. Healy is Pres. W.-W. Trustees.

BLACK DUCK, MINN.—L. G. Townsend, Village Clk., writes us that it has been voted to expend $7,000 for tower, tank and mains for water supply, and that bid will be called early in February.

LAKE WILSON, MINN.—N. C. Chrestenson, Village Pres., writes us that nothing has been done so far about water-works, but an engineer has been sent for and the matter will be put to a vote this spring. Population, 500.

ST. PAUL, MINN.—Bids are asked by the water commissioners until Jan. 31 for furnishing the following materials: 20 tons soft pig lead, 500 ft. 4-in. pipe, 20,000 ft. 6-in., 7,000 ft. 12-in. and 1,000 ft. 16-in.; 800 stop boxes and 4-in. to 16-in. valve boxes; 500 lbs pig block tin, 25 tons lead pipe; also cast-iron special brass goods, water gates and hydrants. John Caulfield, Secy.

WILMONT, MINN.—Bonds to the value of $8,000 have been issued for putting in water-works.

ALCESTER, S. DAK.—D. K. Williams, Town Clk., writes us that the town has voted to put in a $3,750 water system this spring. Bonds for this have been issued and are ready to be sold. It is to be an air-pressure, tank water system.

JOPLIN, MO.—Mayor John C. Trigg writes us that nothing has been done toward purchasing the local water-works further than to hold an election to make the purchase under the terms of the original contract. A favorable response to the city's offer has not yet been received from the water company.

KANSAS CITY, MO.—The Stock Yards Co. have been granted permission to build a 2,500,000-gallon reservoir at 17th and Wyoming Sts. The estimated cost of the work is about $30,000.

WINDSOR, MO.—Burns & McDonnell, 607 Postal Telegraph Bldg., Kansas City, Mo., have been engaged to make surveys, prepare plans, specifications and estimates for a municipal water-works plant at Windsor, Mo. Bonds are to be voted after the plans and estimates are prepared. Population, 2,000.

GENTRY, ARK.—Reports state that a system of water-works is to be constructed here by private parties, to whom has been granted a 20-year franchise.

AUSTIN, TEX.—Reports from here state that ranches aggregating more than 3,000,000 acres are to be divided into small farming tracts and placed under irrigation. For this purpose four companies have been organized with a total capital of $1,350,000, by John G. Kennedy and others.

PORT ARTHUR, TEX.—Bids are asked until Feb. 7 for constructing water, light and ice plant, as is more fully described in our advertising columns. W. H. Lovegrove, Houston, Tex., and Wm. Mackintosh, 905 Tulaine-Newcomb Bldg., New Orleans, La., Engrs.

LAWTON, OKLA. TER.—The Secretary of the Interior has disapproved the contract recently let for the construction of water-works to cost $105,000.

DAVIS, IND. TER.—A contract has been let for a complete set of water-works for this city.

DURANT, IND. TER.—An election is to be held Jan. 29, at which time the issuance of bonds for water-works will be decided.

SOUTH McALESTER, IND. TER.—The council has agreed to pay the Choctaw Nation $6,515 for land to be used as a watershed for the proposed water-works.

COLORADO SPRINGS, COLO.—It is said that early this spring the Northfield Land & Water Co. will build a 3,000,000-gallon reservoir at Austin Bluffs. The estimated cost of the work is $10,000.

DENVER, COLO.—The High Line Reservoir Co., R. H. DuBois, Pres., according to reports, will build this spring a reservoir at the Antero site, near Tartzell.

STERLING, COLO.—C. B. Goddard, Secy. Chamber Commerce, writes us that efforts are being made to get the government to construct a reservoir system, the water supply being obtained from the Platte River. The system was to run into the Frenchman Valley, thus irrigating a large tract of fine farm land. The government has taken no action as yet.

ADAMS, ORE.—Mayor B. A. Marquis writes us that the proposed new water-works are to consist of an iron stand-pipe and a 6-in. main, nine large and numerous small hydrants. The water is to be pumped from a shallow well with 12-HP. gasoline engine. All the above material will have to be purchased. The city, however, is not yet ready to make contracts and preliminary calculations only are being made at present.

LOS ANGELES, CAL.—The contract for a compound engine and pump for the Buena Vista St. pumping plant has been let to the Risdon Iron Works, San Francisco, Cal., for $25,081.

POMONA, CAL.—An election will probably be held in March or April, at which time the municipal ownership of water, gas and electric plants will be voted on.

SANTA BARBARA, CAL.—E. S. Sheffield, Water Comr., writes us that plans have not yet been made for the proposed extension of the municipal water-works. The source of the new supply is to be the Santa Ynba River, and the work is to consist of a 4-mile tunnel, a reser-

Information concerning contracts to be let or of supplies to be purchased, and corrections of errors and omissions in published items, are invited.

voir and dam and diversion work on the river. The cost will probably be from $200,000 to $400,000. J. B. Lippincott, 406 Byrne Bldg., Los Angeles, Cal., is Des. Engr.

SUISUN, CAL.—A special meeting of the trustees is to be held on the matter of issuing $25,000 of bonds for constructing a reservoir and distributing system.

WILLOWS, CAL.—The directors of the irrigation district have accepted the proposition of Mr. Sheldon for the construction of the central irrigation ditch.

BISBEE, ARIZ.—A committee has recommended to the council that 6-in. water mains be put in throughout the city, at a cost of $20,000.

LEWISTON, IDAHO.—A special bond election was held here Jan. 17 to vote on the issuance of $60,000 of bonds for extending the water system.

TORONTO, ONT.—C. H. Rust, Cy. Engr., writes us under date of Jan. 20, that specifications were being prepared for a vertical, triple expansion engine, of a capacity of 15,000,000 gallons. Bids are to be called in two or three weeks.

WINNIPEG, MAN.—Bids are asked until Feb. 2 for furnishing a 5,000,000-gallon pumping engine. H. N. Rutter, Cy. Engr.; C. J. Brown, Cy. Clk.

SEWERAGE.

BOSTON, MASS.—The metropolitan water and sewerage board has made its report to the Legislature, in which it is stated that an extension of 2,000 ft. will have to be made to the high level sewer, at an approximate cost of $220,000, and an additional pumping engine is necessary at the Ward St. pumping station. It is thought other sums not contemplated will run up in all to $405,678.

SPRINGFIELD, MASS.—A petition has been presented by the sewer commissioners to the Legislature for changing the original plans of the sewer system, and asking for authority to expend the sum of $75,000. It is intended to construct a trunk line sewer from a point near the gas house below Hampton Mills, at a cost of about $40,000.

NEW HAVEN, CONN.—The committee on sewers has recommended the construction of sewers in Woodland, Fillmore, Pine and Lombard Sts.

BABYLON, N. Y.—The question of a sewerage system, with a bond issue of $50,000, will come up at the election in March.

BUFFALO, N. Y.—The lowest bid received Jan. 21 by Col. Francis G. Ward, Com. Pub. Wks., for the construction of a sewer in Cable St., was submitted by Dark & Co., at $2,090, and for Genesee St., by Thomas McKeown, at $3,757.

BUFFALO, N. Y.—A report has been submitted to the council by Commissioner Ward on the abatement of the nuisance in the Main and Hamburg Canal, in connection with which a system of sewers will be constructed.—A 24-in. brick, and 20, 18 and 15-in. tile sewer will be built in Downing St. The Commissioner of Public Works has been directed by the common council to prepare plans and specifications for the same.

BUFFALO, N. Y.—The following bids were received on Jan. 2 for constructing a tile sewer in Cable and Genesee Sts.: Cable St.: Dark & Co., 316 Pearl St., $2,090; John Mumm, 176 Best St., $2,093; McKeown & Johnson, 3147 Main St., $2,597; Miller & Franklin, 699 Seventh St., $2,460; W. G. Smith, 89 18th St., $2,198; Beaser Bros., 72 Sandford St., $2,500. Genesee St.: Thos. McKeown, 3147 Main St., $3,751; Beaser Bros., 72 Sandford St., $5,200; John Mumm, $4,449; Dark & Co., $4,825; Miller & Franklin, $4,790.

EAST SYRACUSE, N. Y.—At a meeting of the village board and sewer commissioners, a resolution to prepare a bill to be introduced in the Senate and Assembly for the purpose of getting special legislation for a bond issue, was adopted. The sewer system complete will cost $55,000.

ELMIRA, N. Y.—A meeting will be held shortly by the Penn Yan board of water commissioners for the purpose of securing a competent engineer to make surveys of the village for a sewer system.

FAR ROCKAWAY, N. Y.—The survey for the beach sewer is now being made. The sewer will extend from Rockaway Park to Norton's Creek. Work on this sewer will probably not begin until fall.

GLOVERSVILLE, N. Y.—Reports state that a 30-in. intercepting sewer will be constructed at a cost of about $80,000. Morrell Vrooman is Cy. Engr.

NEW YORK, N. Y.—Bids are asked by the Bronx Borough president until Feb. 9 for constructing sewers in various parts of the city. Louis F. Haffen, Borough Pres.

ONEIDA, N. Y.—W. R. Vedder, Cy. Engr., writes us that the sewer in Cedar and Mott Sts., will call for 262 ft. of 8-in. and 1,560 ft. of 12-in. pipe, with an average cut of 9½ ft., costing about $3,700. This sewer is to relieve the Philips St. sewer. Plans have already been completed. A hearing will be held next week.

NEW YORK, N. Y.—Bids are asked until Feb. 3 for alterations and improvements to outlet sewer in Broad, Front, Water, Pearl, Bridge, Stone, South William and Beaver Sts.; also for St. Nicholas Ave. and Waverly St.; also for receiving basins at five intersections of city streets. Geo. Livingston, Com. Pub. Wks., 13-21 Park Row.

JERSEY CITY, N. J.—Bids are asked by the board of street and water commissioners until Feb. 3 for the construction of a sewer in Covert St.

NEWARK, N. J.—The Passaic Valley Sewerage Commission has made a report of its plans for a joint trunk sewer to the legislature. In building this sewer it is hoped to effect the reclamation of the Passaic River from its present polluted condition. The report provides for nine miles of sewer more than in the report of last year, and the cost is increased from $7,000,000 to $8,690,000. The sewer suggested last year was 26 miles long, but the present contemplated one will be 35 miles in length, running from the Valley of the Rocks, Paterson, along the river and across Bayonne to Robin's Reef.

TRENTON, N. J.—Plans are being prepared for about 10,000 ft. of concrete and 3,000 ft. of terra cotta sewers.

CARBONDALE, PA.—The sewer system which the board of health recommended is not to be built for the present.

ERIE, PA.—T. Hanlon, Cy. Clk., writes us that the ordinance for the main sewer has been passed, together with a bond issue of $28,000. The contract for this sewer has not been awarded yet. B. E. Briggs is Des. Engr.

SOUTH BETHLEHEM, PA.—Plans are being prepared by R. E. Neumeyer, Engr., 16 Goepp St., for a 6, 8 and 11-in. sewer system, which will be about 3,000 ft. long. The materials used will be brick, concrete and expanded metal, and the cost will be about $100,000.

WILMINGTON, DEL.—A meeting will be held next week by the sewer directors and the finance committee of the city council, relative to the matter of securing the funds with which to construct the proposed sewer.

LAUREL, MISS.—A movement is on foot for the construction of a sewerage system.

AKRON, O.—City Engineer Payne has prepared plans, which have been approved by the city commissioners, for a new sewer on Washington St., at an estimated cost of $2,433.

CINCINNATI, O.—Bids are asked by the board of public service until Feb. 9 for the construction of a trunk sewer and drains on Observatory Ave. George F. Holmes, Clk.

COLLINWOOD, O.—Plans were presented by Engineer Davis for a combined sewer system. This would cost about $700,000, while a separate system would cost about $250,000. A meeting will be held in the near future and something definite will then be decided upon.

NEW COMERSTOWN, O.—Edwin R. Davis, of the firm of Davis & Humphrey, Engrs., 6 Beacon St., Boston, Mass., has been engaged by the Corporation of New Comerstown, to prepare plans for a sanitary and street drainage system, and the street paving of the entire town. The estimated cost of the work is $75,000.

NORWOOD, O.—James A. Stewart informs us that he will submit the plans and estimates of the new sewer system next month.

SANDUSKY, O.—Local papers state that the sewer committee has been authorized to enlarge sewer No. 13, at a cost of about $1,600.

TOLEDO, O.—Bids are asked until Feb. 16 for the construction of a 5-ft. cylindrical brick and iron pipe sewer in Jefferson St. Chas. H. Nauts, Cy. Clk.

TOLEDO, O.—Bids are asked until Feb. 9 for constructing an 8-in. cylindrical pipe sewer in the alleys west of Stocking Ave., Noble and Yates Sts., and in the alley west and southwest of Mulberry St.

RENSSELAER, IND.—The sewer contract which was awarded to W. F. Smith will amount to $10,000. Work will start shortly.

WABASH, IND.—John Hilty, Cy. Engr., writes, under date of Jan. 27, that bids are wanted for sanitary sewers in Miami and Stilts Sts.

AURORA, ILL.—A sewer system 17,400 ft. long is contemplated this year, and also 1 1-5 miles of paving. M. G. Stolp is Cy. Engr.

CENTRALIA, ILL.—A sewerage system will be constructed with filter beds and septic tanks. Plans have been prepared, covering the whole city, but only 54 blocks will be sewered at the present time.

CHICAGO, ILL.—Plans have been submitted to Commissioner Blockl, for a sewerage system, costing $700,000, and the same have been approved. In Western and Kedzie Aves., sewers 7 and 10 ft., respectively, will be run, under the old Illinois and Michigan Canal. The main sewer will be 45,000 ft. long., and will have 50,000 ft. of lateral pipe. The Western Ave. main will be 16,000 ft. long, and will extend south to 58th St.

CICERO, ILL.—Bids are asked until Feb. 5 for the construction of pipe sewers in 26th, 12th and Risbey Sts. David T. Brennan, Secy. Bd. of Local Improvements, P. O., Chicago.

JERSEYVILLE, ILL.—Bids are asked until Feb. 3 for the construction of 2,400 ft. of 15-in. sewer and 1,200 ft. 10-in. sewer. Albert F. Foster, Cy. Clk.

MORTON PARK, ILL.—Bids are asked by the secretary board of local improvements until Feb. 5 for the construction of a 12, 15 and 20-in. pipe sewer system in 25th St. David T. Brennan.

SLAYTON, MINN.—Bids are asked until Feb. 2 for the construction of sewers. John Knutson, Village Recorder.

WEST DULUTH, MINN.—City Engineer Patton has completed the survey for the proposed main outlet sewer. This sewer will empty into the bay on the west side of Grassy Point, near Keene Creek.

INDEPENDENCE, MO.—Bids are asked until Feb. 7 for the construction of sewers. H. H. Pendleton, Cy. Engr.

KANSAS CITY, MO.—Bids are asked until Jan. 31 for the construction of sewers in district No 132. Robt. W. Waddell, Cy. Engr.

DALLAS, TEXAS.—The sewerage plan was to have been decided at a special meeting of the citizens on Jan. 27. The cost ranges from $70,000 to $150,000.

OKLAHOMA CITY, OKLA.—Amman & Wood have the $12,000 contract for extending the storm sewer to the Canadian River. Work will start at once.

BAKER CITY, ORE.—Otto A. Weile, Des. Engr., Spokane, Wash., writes us that the new sewer will be of 6, 8, 10, 12, 16, 18 and 20-in. pipe, four miles long, with an average cut of 10 ft., and will cost about $40,000. Bids will be asked about Feb. 15.

LONG BEACH, CAL.—Bids are wanted by the City Clerk until Feb. 2 for the purchase of outfall sewer bonds to the amount of $35,000. Wm. A. Foster is Cy. Engr.

GARBAGE DISPOSAL—STREET CLEANING

NATICK, MASS.—A recent meeting of business men at the Builders' Exchange was addressed by Lewis H. Scheider, Pres. American Underwriting Co., Boston, Mass., on the matter of establishing a plant in Natick for the utilization of garbage.

NEW HAVEN, CONN.—A local press report states that it is only a question of time when New Haven will be forced to abandon the present system of garbage disposal.

NEW YORK, N. Y.—Bids are asked by the commissioner of street cleaning, 13 Park Row, until Feb. 2 for 250 steel ash carts, 1,000 iron ash cans and 200 combination can and bag carriers. John McG. Woodbury, Comr.

SYRACUSE, N. Y.—The garbage plant of the Syracuse Reduction Co., on Hiawatha St., which was destroyed by fire Jan. 18, will be rebuilt at once. John Dunfee is a director of the company.

WILMINGTON, DEL.—Contracts for the collection and removal of garbage for a term of three years have been let as follows: First District, Geo. C. Slaughter, $6,000; Second District, Martin F. Keough, $8,850; Third District, Henry Witsil, $9,600; Fourth District, Daniel McCormick, $17,100.

WASHINGTON, D. C.—Among the appropriations favorably reported to the House for the district of Columbia is one of $150,000 for street sweeping.

NEW ORLEANS, LA.—The city health board has decided to appeal to the mayor and council for a system of regular garbage collection.

TOLEDO, O.—A resolution has been before the council for the appointment of a commission to report on the best method of garbage collection.

DES MOINES, IA.—Reports state that the matter of garbage collection and disposal will not be considered until next summer or fall.

MINNEAPOLIS, MINN.—This city is asking for bids until Jan. 30 for the removal of the Decaire incinerator from present location to Halls Island, at Plymouth Ave. A drying attachment is to be placed on the incinerators; also a gas-consuming furnace, so that the capacity will be almost doubled. G. W. Sublette is Cy. Engr.

SAN RAFAEL, CAL.—Bids are asked until Feb. 2 for making additions and extensions to the salt water sprinkling plant. Among the principal items desired is a 10,000-gallon redwood tank, a 15-ft. tower with concrete footings, and 4,950 ft. 6-in. machine bended redwood pipe. Geo. L. Richardson, Supt.

STREETS AND ROADS.

QUINCY, MASS.—An ordinance has been introduced appropriating $10,000 for the paving of Willard St.

BUFFALO, N. Y.—Bids are asked by the department of public works until Jan. 30 for repaving Emslie, Carroll and Sycamore Sts., 30 ft. wide.

BUFFALO, N. Y.—The following bids have been received for paving in this city; all local bidders: (1) German Rock Asphalt & Cement Co., 306 D. S. Morgan Bldg.; (2) Eastern Construction Co., 400 D. S. Morgan Bldg.; (3) Barber Asphalt Paving Co., 880 Ellicott Square; (4) H. P. Burgard, 500 Walden Ave.; (5) John Mumm, 176 Best St.; (6) L. H. Gipp, 420 Ellicott Square; (7) Miller & Franklin, 669 Seventh St.; (8) Beaser Bros., 72 Sanford St.; (9) Brown & Stabell, 1131 Niagara St.: Repaving Superior St., 1,724 sq. yds.—Asphalt, (1) $2,442, (2) $2,500, (3) $2,241, (4) $2,325; Brick, (3) $3,310, (4) $4,400, (5) $4,300, (5) $4,300, (6) $4,157; Stone, (3) $5,172, (5) $6,900, (4) $5,600; Macadamizing Fairfield Ave. and Orchard Pl., 1,639 sq. yds. (1) $3,017, (4) $2,475, (5) $4,239, (7) $2,890, (8) $2,500, (9) $2,959; Repaving Spring St., 2,730 sq. yds.—Asphalt, (1) $5,896, (2) $5,500, (3) $5,514, (4) $5,177; Brick, (3) $6,688, (4) $6,575, (5) $7,840, (6) $6,564; Stone, (1) $9,455, (2) $9,691, (4) $7,995, (5) $12,040.

NEW YORK, N. Y.—Bids are asked by the Bronx Borough president until Feb. 9 for various street improvement work, the chief items of which are: 40,000 sq. yds. asphalt paving, 7,200 cu. yds. concrete, 3,620 sq. yds. asphalt block repaving, filling, grading, curbing and the like. Louis F. Haffen, Borough Pres.

NIAGARA FALLS, N. Y.—The city engineer's estimates for paving are: Sixth St., $7,263; 11th St., $4,088, and Fifth St., $5,518.

MORRISTOWN, N. J.—Reports state that bids will soon be wanted by the board of county freeholders for constructing Lincoln Park road, 4½ miles, at $17,527; Green Village Road, 3¼ miles, at $13,567; Sussex and Newton Turnpike, one mile, at $4,977, and Pompton Road, ¾ mile, at $3,634.

WILLIAMSPORT, PA.—Reports state that the paving of 15,000 sq. yds. with brick or asphalt is contemplated. Jas. F. Fisher is Cy. Engr.

NORFOLK, VA.—A resolution for the paving of Matthews St. with granite blocks has been offered by Mr. Cashin.

RICHMOND, VA.—A committee has been selected to take charge of the street improvements. The sum of $80,000 has been appropriated. George Perkins, W. T. Martin and J. E. Harrison are members of the committee.

MEMPHIS, TENN.—Mayor Williams has invited 200 citizens to discuss the paving question. City Engineer Omberg's estimate of the cost of paving is $4,000,000.

CINCINNATI, O.—Bids are wanted by the board of public service until Feb. 2 for paving Belvedere St. and Theis Alley with brick, and until Feb. 16 for paving Fuller St. with boulders. Geo. F. Holmes, Clk.

TOLEDO, O.—The council has approved the paving of Willow Ave. with Harris pavers, and 11th St. with Logan block. The paving of Wakeman and Lagrange Sts. was also approved, subject to the engineer's approval.

TOLEDO, O.—The lowest bid received for paving 11th St. was submitted by Jas. Shehan, at $3,521, on either Medal, Metropolitan or Perkins block on sand foundation. H. G. Jennison was lowest on creosoted block at $8,310, and the Barber Asphalt Co., on Trinidad Lake asphalt at $6,115.

DELPHI, IND.—A petition is in circulation for the construction of 30 miles of gravel roads for the townships of Democrat and Deer Creek, at a cost of about $200,000.

KNIGHTSTOWN, IND.—Bids are asked by the board of trustees, until Feb. 6 for grading and graveling Adams St.

TIPTON, IND.—Bids are wanted by A. W. Gott, Engr., until Feb. 3 for the construction of six miles of gravel road.

MENOMINEE, MICH.—Reports state that the street commissioner has recommended the paving of Main St. with brick, at about $20,000.

THREE RIVERS, MICH.—Bids are asked by the city council until Feb. 17 for paving and drainage of Flint Ave. Jas. E. Bunn, Cy. Clk.

CHICAGO, ILL.—The streets bounded by 26th and 31st Sts., 40th, Court and 43d Aves., have been ordered paved with granite top macadam at a cost of about $136,000. The board also ordered West 19th and Webster Ave. to be paved at a cost of about $99,500.

MORTON PARK, ILL.—Bids are asked by the Secy. Board of Local Improvements until Feb. 5 for paving Linden Ave. with 10-in. macadam. The street is 27 ft. wide.

CHIPPEWA FALLS, WIS.—Bids are asked by the board of public works until Feb. 14 for about 26,625 sq. yds. of brick paving.

MADISON, WIS.—Bids are wanted by the street assessment committee until Feb. 9 for paving Miffin and Pinckney Sts. with asphalt. O. S. Norsman, Cy. Clk.

IOWA CITY, IA.—Bids are wanted until Feb. 20 for 11,000 sq. yds. brick paving. Chas. S. Magowan, Cy. Engr.

MARSHALLTOWN, IA.—Wm. Brennan, Cy. Engr., writes us that about 3,000 ft. of brick and 7,000 ft. of asphalt paving is contemplated for this year.

ST. PAUL, MINN.—The macadamizing of Concord St., from Ada to Arthur St., will be introduced at the next meeting of the council.

INDEPENDENCE, MO.—H. H. Pendleton, Cy. Engr., writes us that the outlook for street improvement this year is good. Brick is the material to be used for paving and artificial stone for sidewalks.

KANSAS CITY, MO.—Bids are asked until Jan. 31 for repairing the asphalt pavement on 5th, Wyoming and 10th Sts., and grading various streets and avenues.

ST. JOSEPH, MO.—Ordinances have been introduced in the municipal assembly by Councilmen Andriano and Bruce for paving Seneca and Lafayette Sts. and Washington Ave. with brick, and Paulin St. with macadam.

DALLAS TEX.—The issuance of $500,000 in bonds for the improvement of roads is being discussed. A petition will probably be presented to the commissioner's court for this purpose.

McGREGOR, TEX.—Bonds to the amount of $6,500 will be issued for street improvements.

Information concerning contracts to be let or of supplies to be purchased, and corrections of errors and omissions in published items, are invited.

HOUSTON, TEX.—In the reports of the city engineer he states that it will require $58,323 to complete the existing paving contracts and provide for contemplated improvements.

EL RENO, OKLA.—C. E. Brown, Cy. Engr., informs us that the paving question is at a standstill at present. If Rock Island and Bickford Aves. are paved, brick will be the material used.

DENVER, COLO.—A bill will be prepared by former Mayor H. V. Johnson, H. E. Imlay and J. A. Burnet, calling for an appropriation of $100,000 for the building of a road from the city limits south to meet the road from the western slope.

RIVERSIDE, CAL.—Reports state that the grading of Cypress Ave. will come before the city trustees shortly. The work is estimated at $4,040.

OGDEN, UTAH.—A. F. Parker, Cy. Engr., wrote us under date of Jan. 23, that bids would be advertised the following day for 7,500 lin. ft. of sandstone curbing, 7,000 sq. yds. of sandstone block paving, and 9,000 sq. yds. of asphaltum on concrete base. The work will be let under four separate contracts.

TORONTO, ONT.—The paving of the following streets has been recommended: College St., from Yonge to Beverley St.; Pembroke St., macadam; Van Horne, cedar blocks, Wickson Ave., tar macadam; Francis St., cement concrete; Duke St., asphalt; Barton Ave., asphalt; Wilson Ave., asphalt; Spadina Ave., asphalt; Harrison St., block pavement, and Manitou Ave., on the island, cement concrete. Also the following cement-concrete sidewalks: Smith, Murray, Ontario and Clifford Sts. The total cost is estimated at $85,826.

MANUFACTURING PLANTS.

AUGUSTA, ME.—Reports state that the Edwards Mfg. Co. will build another large cotton cloth mill on the east side of the Kennebec Dam. It is intended to raise the dam 2 ft. to secure additional power.

SOMERSWORTH, N. H.—The H. & F. Hodgdon, of Worcester, Mass., has purchased the Market St. shoe factory, and will equip it for the manufacture of alpacas. The plant will be started by April.

NEW BRITAIN, CONN.—The North & Judel Mfg. Co. will begin the erection of an additional factory, 60 × 140 ft., as soon as the weather permits. The structure will be of brick, with steel frame, and will be four stories high.

NEW HAVEN, CONN.—The New Haven Rendering Co. has decided to erect a plant on the outskirts of the city for the manufacture of tallow, oleo oil, butterine and cut bones.

BLOOMSBURY, N. Y.—Plans are being prepared by Hamilton & Mersereau, Archs., 32 Broadway, New York, for a new plant for the Convertible Car Co., 118 Liberty St., N. Y. Bids will be taken in the spring.

BUFFALO, N. Y.—The Washburn-Crosby Co., Minneapolis, will erect a flour mill on the site of the old Dakota elevator. The mill will have a capacity of 3,000 bbls. a day and will receive its power from the Cataract Power & Conduit Co.

NEW YORK, N. Y.—The United States Steel Corporation's appropriation this year for improvements will probably amount to $25,000,000.

YONKERS, N. Y.—We are informed that the rebuilding of R. N. Yerks & Co.'s plant has not been determined on as yet.

GIBBSBORO, N. J.—Ballinger & Perrot, Archs., 1200 Chestnut St., are receiving bids for an addition to the paint factory of John Lucas & Co. The building will be a 4-story brick structure, 100 × 150 ft., and slow-burning in construction.

CAMDEN, N. J.—The factory building of A. Lunn & Co. has been destroyed by fire. The loss is estimated at $130,000.

ALLENTOWN, PA.—The Palace Ribbon Co., care Mr. Wolf, South Allentown, contemplates erecting an addition to its plant in the spring. The structure will be four stories, of slow-burning construction and be built of brick. ——The Allentown Foundry & Machine Co., care Chas. E. Krauss, Third and Walnut Sts., contemplates large additions to its plant. Brick and steel will be used in the construction of the buildings.

BATH, PA.—Bids will soon be received by the Penn. Cement Co., 26 Cortlandt St., New York, for the superstructure of a new cement plant. Brick, steel and concrete will be used. The firm of Westinghouse, Church, Kerr & Co., New York, will have charge of the equipment.

MARTIN'S CREEK, PA.—The Martin's Creek Portland Cement Co., Drake Bldg., Easton, is ready for bids for the superstructure of a number of buildings at this place. Electric power plans will be required. The buildings will be built of steel and concrete.

PHILADELPHIA, PA.—Bids have been received by the Philadelphia Rapid Transit Co., W. S. Trowing, Engr., Ninth and Dauphin Sts., for new shops, and the contracts will soon be awarded. Brick and steel will be used in the building, which will be 200 × 150 ft., and two stories high ——Estimates are being taken by F. A. Bruner, Unity and Leiper Sts., for a new factory at that place. It will be built of brick, slow burning in construction and be 40 × 100 ft., and two stories high.

PHILADELPHIA, PA.—Wm. Steele & Sons, Witherspoon Bldg., will invite sub-bids for an additional story, 188 × 32 ft.; to the Leicester mills at Armat and Lena St., Germantown.

PITTSBURG, PA.—The Pennsylvania R. R. Co. is now planning to build a grain elevator on Herr's Island, and the Central Ohio Grain Dealers will also erect an elevator when a site has been secured.

READING, PA.—The Montello Brick Co. will rebuilt its plant at Reading and also at Perkomeer, Pa., Baltimore and Washington. The company is capitalized at $2,500,000.

ALEXANDRIA, VA.—W. R. Emerson, Mech. Engr., Vice-Pres. Emerson Steam Pump Co., 1331 T St., N. W., Washington, D. C., writes us that the newly incorporated Emerson Steam Pump Co. owns patents on steam pumps, foot valves and strainers for intake pipes of pumps and has purchased the rights and patents of the Emerson Pump Co. The company has also taken title to a plot of six acres covering three city blocks in Alexandria, located on seven different railway lines, with excellent facilities for shipment by water, and will use the property as the site for its proposed plant. There is now located on the property a large Colonial residence. This building will be utilized for the company's offices and drafting rooms. There will be erected commodious shops and an iron and brass foundry, and plans for the same are now under consideration, although that matter has not sufficiently advanced to permit of any details being given. The company is capitalized at $1,000,000.

DANVILLE, VA.—Bids will soon be asked by the Dan River Power & Mfg. Co. for a 43,000-spindle cotton mill building, weave shed and cloth house. Lockwood, Green & Co., Archs. and Engrs., Boston, Mass.

RICHMOND, VA.—The plant of the Virginia-Carolina Chemical Co., which was destroyed by fire, will in all probability be rebuilt in a short time.

PORTSMOUTH, VA.—Bids are asked until Feb. 7 for the erection of a compress building for the Seaboard Air Line Ry. The main building will be 100 × 400 ft., with corrugated iron sides, gravel roof; boiler house, 29 × 40 ft., with platform from 8 to 15 ft. long. The proposed structure will occupy the site of the building recently destroyed by fire. Address the Chief Engineer, Seaboard Air Line Ry., Portsmouth.

BRUNSWICK, GA.—The Mohawk Valley Steel & Wire Co., Worcester, Mass., will erect a plant with a capacity of 1,000 tons daily and employing from 5,000 to 8,000 hands.

CARTERSVILLE, GA.—Reports state that plans have been completed by Chicago capitalists for establishing a cement plant here, with a capital of $1,500,000. Also for another company for developing the power of the Etowah River at this place, with a capital of $500,000.

COLUMBUS, GA.—The Eagle & Phenix Mill Co. has started the erection of a new rope mill. The building will be two stories high.

STATESBORO, GA.—S. L. George and D. B. Morgan, of Savannah, are the largest stockholders of the new ice company. The company proposes to erect a plant and be ready for the spring business.

BIRMINGHAM, ALA.—The Tennessee Coal & Iron Co. will erect a new blast furnace at Ensley. After this work is completed, four or five of the present furnaces will be replaced by larger ones. The cost is estimated at between $400,000 and $500,000.

GADSDEN, ALA.—A meeting will be held Feb. 9 by the stockholders of the Gadsden Car, Foundry & Machine Co. for the purpose of increasing the stock from $25,000 to $50,000. The enlargement of the shops is contemplated.

GADSDEN, ALA.—A steel mill and blast furnaces will be erected by the Schulers, who are at the head of the Alabama Steel & Wire Corporation.

CHATTANOOGA, TENN.—The erection of a paint factory is being considered by Ohio capitalists, with a capacity of from 40 to 50 tons a day. The plant would employ from 50 to 75 men and would cost about $50,000.

NEWPORT, TENN.—The Newport Tannery will erect a tannic acid factory in connection with the tannery at a cost of about $60,000. J. W. Fisher, Mgr., has stated that arrangements have been made with a builder of tannic acid factories to begin work on the new plant.

COLUMBUS, O.—The Portland Cement Co., capitalized at $400,000, is figuring on the erection of five or six buildings constructed of stone. The plant will have a capacity of 1,200 barrels a day. It is intended to start work as soon as possible.——The Roiar Woven Wire Fence Co. will erect its first plant at this place. The company is capitalized at $300,000. A steel rod and wire-drawing plant will be erected later on.

TOLEDO, O.—The Automatic Stoker Co., with a capital of $200,000, will erect a factory within the next few weeks. Wm. F. Malone, Frank Gorman and Chas. R. Clapp are interested in the company.

MUNCIE, IND.—Wm. R. Bailey, capitalist and manufacturer, of Windfall, is having plans prepared for a canning factory and a lumber mill.——E. R. Stowell, of Portland and Chicago, will build a factory for the manufcture of creamery packages. Other capitalists are contemplating the erection of plants in this town.

CHICAGO, ILL.—Plans are nearing completion by Shock & Swanson, Archs., 172 Washington St., for a plant to manufacture steam railway frogs and switches for Pettibone, Mulliken & Co., 725 Marquette Bldg. The first two buildings to be erected will be 700 × 280 and 280 × 200 ft., and be built of brick, steel and stone. The cost of the entire plant is estimated at $2,000,000. Jacob Rodatz, 414 Rookery Bldg., has the contract for the first two buildings mentioned.——Plans will be prepared by J. M. Van Osdel, Arch., 718 Temple Court Bldg., for the plant of the A. B. Spinks Shoe Mfg. Co., capitalized at $1,000,000.——Shepley, Rutan & Coolidge, Archs., 84 Van Buren St., have completed plans for the second section of the plant at Fisher St. for the Commonwealth Electric Co. It will cover 245 × 86 ft., 72 ft. high, and be of steel, brick and stone. The entire plant will cost about $6,000,000. Wells Bros. Co., Monadnock Block, will probably get the contract.——Fred. Koenig, Journal Bldg., is preparing plans for an 8-story factory, 50 × 100 ft., at Kinzie and Orleans St., for the Denny Envelope & Tag Co. It will be of steel construction, with pressed brick front, composition roof, freight and passenger elevator, steam heat, electric lights, automatic sprinkler system, and will cost about $50,000.

LA CROSSE, WIS.—A company is being planned by L. Wolff, with a capital of $50,000, to manufacture pearl buttons. The plant will employ 180 men.

ST. JOSEPH, MO.—Plans are now being prepared for a new factory building for the Huttig-Moss Mfg. Co. As yet the location of the new building is indefinite.

ST. LOUIS, MO.—The Continental Glass Mfg. Co. will erect a building 132 × 255 ft., at a cost of about $25,000. As soon as the plans are completed work will start on the erection. When completed about 100 or more men will be employed. Wm. Gottlieb is Secy.

FORT WORTH, TEX.—A new company has been incorporated recently under the name of the Champion Elevator Gate Co., with a capital of $100,000. The company will manufacture automatic and other elevator gates.

UNION, ORE.—It is reported that J. M. Hursh will rebuild his planing mill and install new machinery. H. C. Hanson will erect a plant at the Catherine Creek district, with a capacity of 25,000 ft. a day.

SAN FRANCISCO, CAL.—Reports state that the Western Iron & Steel Co. will erect a plant on San Francisco Bay, where iron and steel will be manufactured. B. F. Brennigh, New York, is Pres.

OGDEN, UTAH.—The Ogden Woolen Mills Co. has decided to erect an electric power generating plant and also two new departments to their factory.

POCATELLO, IDAHO.—D. T. Malone, Master Mechanic of the Oregon Short Line R. R., is reported to have stated that if the present plans are carried out, $600,000 more would be spent this summer for the erection of a large car shop, foundry, store houses, paint and sand sheds and a number of minor buildings.

SYDNEY, C. B.—The Dominion Iron & Steel Co. will erect a steel rail mill in this place. It will have a capacity of 400 tons a day, and is expected to be in operation by May 1.

SYDNEY, N. S.—Contracts are about to be let by the Dominion Iron & Steel Co. for the construction and equipment of a steel rail plant with a capacity of 400 tons a day. Later on it is proposed to construct a larger mill to increase the capacity to 3,000 tons, which will involve an expenditure of about $600,000. The first mill is expected to be completed by May 1.

MISCELLANEOUS CONTRACTS.

PARK.—Terre Haute, Ind.—The council has authorized a loan of $25,000 for park purposes.

PARK IMPROVEMENT.—Delphos, O.—It has been voted to issue $40,000 of park improvement bonds.

PARK.—Milwaukee, Wis.—Mayor Rose has signed an ordinance authorizing the issue of $40,000 of bonds for park purposes.

STEAM FIRE ENGINE.—Ecorse, Mich.—Reports state that it is probable that the village will purchase a steam fire fighting apparatus.

PARK.—Atlantic Highlands, N. J.—A stock company is being organized to secure about 25 acres of ground for conversion into a park.

WHARF ENLARGEMENT.—San Diego, Cal.—The sum of $1,675 has been allotted for enlarging and extending the wharf at Fort Rosencrans.

FIRE EQUIPMENT.—Gonzales, Tex.—A $15,000 bond issue will be voted on in April for purchasing fire equipment and improving the streets.

DREDGING.—Boston, Mass.—A bill has been introduced by Senator Fred. Gore appropriating $100,000 for dredging the easterly shore of Dorchester.

PARK.—Philadelphia, Pa.—An ordinance has been before the council for placing in the city plan a tract of land at 66th St. and Overbrook Ave.

DOCK.—Newark, N. J.—The street committee of the board of works has recommended the building of a dock at the foot of Commerce St., at a cost $2,500.

TELEPHONE FRANCHISE.—Long Beach, Cal.—Bids are asked until Feb. 9 for a telephone and telegraph franchise in this city. Will B. Julian, Cy. Clk.

DRY DOCK.—Manitowoc, Wis.—The Manitowoc Dry Dock Co. is said to be considering plans for a new 600-ft. long dry dock to be erected here this spring.

FERRY.—Portland, Ore.—The Albine Improvement Association is advocating an appropriation of $50,000 for building and maintaining a free ferry system.

PUMPING PLANT.—Barbourville, Ky.—The Standard Development Co. is said to be preparing to erect a large oil pumping plant on Richland Creek property.

LADDER TRUCKS.—Cincinnati, O.—The contract for two ladder trucks for the fire department has been let to the Seagrave Co., Columbus, O., for $1,750 each.

ASPHALT PLANT.—Toronto, Ont.—The public works committee has placed in the estimates the sum of $23,000 for the establishment of a municipal asphalt plant.

FIRE ENGINE.—Chattanooga, Tenn.—The fire chief has recommended the purchase of another steamer to cost $4,500 and a combination hose wagon to cost $1,600.

GRADE CROSSINGS.—Attleboro, Mass.—Surveys have been completed by the N. Y., N. H. & H. R. R. engineers for the abolishment of the grade crossings in this place.

DRAINAGE.—Kalamazoo, Mich.—C. G. Kleinstuck, of Asylum Ave., is reported as promoting a legislative bill for draining 30,000 acres of flooded land in Allegan county.

WHARF, ETC.—Portland, Ore.—Bids are asked by the American Can. Co., 539 Worcester Block, until Jan. 31, for constructing wharf, factory, warehouse and lithograph building.

BREAKWATER AND BRIDGE.—Chelan, Wash.—Reports state that bids are to be asked soon for a combined breakwater and bridge crossing the Chelan River at Emerson St.

SMELTER.—Spokane, Wash.—The Panhandle Smelting & Refining Co. has secured a site for a smelter at Sandy Point and surveys are to be made at once for its construction.

IMPROVEMENT OF NAVIGATION.—Concord, N. H.—A bill has been before the legislature to appropriate $6,000 for improving the navigation in Squam Lake and adjacent waters.

FISHING BOAT.—Tacoma, Wash.—Crawford & Reid have been awarded the contract by the International Fisheries Co. of this city, for the construction of a new boat to cost $12,000.

BOAT LANDING.—Erie, Pa.—Bids are asked until Jan. 31 for material and for building a pier for a boatlanding 100 ft. long and 12 ft. wire. Geo. C. Gensheimer, Secy. W.-W. Comrs.

TELEPHONE SYSTEM.—Brookings, S. Dak.—At the regular spring election the matter of a $12,000 bond issue for the construction or purchase of a telephone system will be decided.

SMELTER.—Stevenson, Wash.—Reports state that the Skamania & Last Chance copper mines, owned by Ladd & Bourne, Portland, will be augmented by a smelter the coming summer.

STONE CRUSHER.—Perkasie, Pa.—At an election to be held in February an $8,000 bond issue will be voted on, the proceeds to be used for purchase of a stone crusher and other purposes.

TUNNEL WORK.—Boston, Mass.—The contract for constructing section C of the East Boston tunnel under State St., has been let to Patrick McGovern, 55 Maywood St., Boston, for $236,995.

RIPRAP.—Duluth, Minn.—Bids are asked until Feb. 24 for furnishing about 26,000 tons of riprap at Ashland, Wis., as is stated in our advertising columns. Capt. D. D. Gaillard, U. S. Engr.

TORPEDO BOAT.—Bremerton, Wash.—Orders have been received at the Puget Sound navy yard authorizing the reconstruction of the torpedo boat Goldsborough. The work will cost about $25,365.

CANAL.—Eureka, Cal.—A preliminary survey for a canal from Lake Earl to Pebbly Beach is under consideration. The canal is for draining Lake Earl, and the estimated cost is about $20,000.

JETTY.—Los Angeles, Cal.—The contract for building a jetty at San Diego harbor has been let to Waldo S. Waterman, San Diego, Cal., for $1.85 a ton. The work will amount to about $200,000.

DREDGING, ETC.—Newport, R. I.—Bids are asked until Feb. 11 for dredging and removing boulders in Newport Harbor, as is stated in our advertising columns. Maj. Geo. W. Goethals, U. S. Engrs.

RIVER IMPROVEMENT.—Buffalo, N. Y.—The Buffalo River and Cazenovia Creek improvement work, the estimated cost of which is $750,000, is soon to be advertised. F. G. Ward is Comr. Pub. Wks.

UNDERGROUND DRIVEWAY.—Chicago, Ill.—Plans for an underground driveway passing beneath the Chicago River from the Art Institute to Illinois and St. Clair Sts.,

Information concerning contracts to be let or of supplies to be purchased, and corrections of errors and omissions in published items, are invited.

are said to have been agreed upon by the park boards of the North and South sides, who will submit a bill to the legislature authorizing $2,000,000 for doing the work.

WHARF EXTENSION.—San Pedro, Cal.—Reports state that the San Pedro, Los Angeles & Salt Lake R. R. is to extend its wharves at Terminal Island, a distance of 600 ft., at an estimated cost of $30,000.

DRAIN.—Varnia, Ont.—Bids are asked by John E. Harawell, Clk., Stanley township, until Feb. 28, for constructing drain. Work consists of 7,000 cu. yds. excavation and cleaning out brushwood; estimated cost, $2,217.

PARK IMPROVEMENTS.—Pomona, Cal.—The city trustees have received plans for the improvement of Ganesha Park and San Jose hills. Many wells are to be driven and this with piping the water and the other improvement will cost $20,000.

MODEL IRRIGATION PLANT.—Ontario, Cal.—The Hydrographic Bureau of the Geological Survey has decided to reproduce on a miniature scale the irrigation system at this place, for exhibition as a model system at the St. Louis Exposition.

STREET LAMP SIGNS, LUMBER, ETC.—New York, N. Y.—Bids are asked by the Bronx Borough president until Feb. 9, for 5,600 glass street lamp signs, also for lumber and for 1,500 cu. yds. Cow Bay paving sand. Louis F. Haffen, Pres.

STEAM HEATING PLANTS, ETC.—Syracuse, N. Y.—Wm. N. Tobin, of this city, is reported to have secured contracts for installing steam heating plants and ventilating systems in New York city, the aggregate amount of which will total $50,000.

SUBWAY.—Rochester, N. Y.—The city engineer has received the plans for the subway, which the New York Central R. R. Co. proposes to construct at North Union St. Bids are to be asked soon for the work, the estimated cost of which is $75,000.

RIVER DEEPENING, ETC.—Buffalo, N. Y.—Bids are asked until Feb. 6 for deepening, widening, dredging, improving and removing obstructions from a portion of the Buffalo River, the City Ship Canal and Peck Slip. Francis G. Ward, Comr. Pub. Wks.

FILING EQUIPMENT.—New York, N. Y.—Bids are asked by the police commissioner, 300 Mulberry St., until Feb. 6 for repairs and alterations and installation of steel filing equipment in central office, detective bureau, Mulberry St. Francis V. Greene, Comr.

COAL STORAGE HOUSE AND INCLINES.—Cincinnati, O.—Plans for the new coal storage houses and inclines at the eastern and western pumping stations have been submitted to the water-works commission. The cost of each plant is about $100,000.

LUMBER, SEWER BRICKS, ETC.—Cambridge, Mass.—Bids are asked by the city engineer until Jan. 31 for furnishing the sewer department during 1903 with lumber, sewer bricks, sewer pipe, American natural cement, Portland cement, concrete stone and about 50,000 lbs. iron castings. L. M. Hastings, Cy. Engr.

CANAL.—Akron, O.—C. E. Perkins, State Engr., of this city, has prepared a report on the feasibility of building a canal from Cleveland to Muskingum. The plans will be submitted to the State Board of Public Works. The total estimated cost of the work is $12,299,372.

PUBLIC COMFORT STATIONS.—Brooklyn, N. Y.—Bids are asked by the Brooklyn Borough president until Feb. 11 for material and labor for public comfort stations at Hamilton Ave., and Richards St., and at Manhattan Ave., and Greenpoint Ave. J. Edw. Swanstrom, Pres.

TELEPHONE AND TELEGRAPH FRANCHISE.—Natchez, Miss.—A 50-year franchise has been granted to the Cumberland Telephone & Telegraph Co., on condition that they shall install a through long-distance service to New Orleans, Jackson, Miss., and Reyville, La.

LOCK GATES, FILLING VALVES, ETC.—Nashville, Tenn.—Bids are asked until Feb. 28 for constructing and delivering four pairs of steel lock gates, filling valves, etc., for locks A and No. 1, as is stated in our advertising columns. Lt.-Col. M. B. Adams, U. S. Engrs.

DIKING.—Harrisburg, Pa.—Bills have been before the legislature appropriating $10,000 to the borough of Tioga, $3,000 to the borough of Covington, $12,000 to the borough of Lawrenceville and $3,000 to the borough of Mansfield for the purpose of diking and flowing in the boroughs.

DREDGING AND JETTY WORK.—Newport, R. I.—But one bid was received at the U. S. Engineer office for repairs to the jetty at Nantucket. This was from E. S. Belden & Son, Hartford, Conn., at $2.97 per ton of stone in place. No bids were received for dredging the channel at Nantucket.

STONE CRUSHER.—Montreal, Que.—The city council is to ask for new bids for a stone crusher, as neither of the resulting bids from the original advertisements was according to specifications. Bids are also to be asked for about 5,000 ft. of double jacket cotton fire hose, rubber lined, also 9 x 12-ft. salvage covers. L. O. Davis, Cy. Clk.

SAND, PORTLAND CEMENT, ETC.—New York, N. Y.—Bids are asked by the commissioner public works, City Hall, until Feb. 3 for furnishing 20,000 cu. yds. sand, 1,000 bbls. Portland cement, 100,000 gallons No. 6 paving cement, 2,500 cu. yds. gravel, 2,500 cu. yds. gravel screenings, 2,500 cu. yds. trap rock broken stone and 1,200 cu. yds. trap rock screenings. George Livingston, Comr.

HARBOR WORK.—Buffalo, N. Y.—The following bids have been received by Maj. T. W. Symons, U. S. Engrs., for dredging and blasting in Black Rock harbor: James B. Donnelly, Buffalo, N. Y., $1,848,000; The Daly & Hannan Dredging Company, Ogdensburg, N. Y., $1,071,500; Lake Erie Dredging Company, Buffalo, $1,020,500; the L. P. & J. A. Smith Company, Cleveland, O., $1,179,500; Buffalo Dredging Co., $802,250.

PNEUMATIC TUBE SERVICE.—Washington, D. C.—The following bids were received Jan. 8 by the second assistant postmaster-general for a mail service by pneumatic tubes in Chicago, Ill.: (1) being bid for route 535,-003, (2) for route 535,004, (3) route 535,007, (4) route 535,010; Chicago Postal Pneumatic Tube Co., (1) $118,250 per year; (2) $84,562.50 per year; (3) $118,250 per year; (4) $119,625 per year, or $13,750 per mile for all routes. Batcheller Pneumatic Tube Co., (1) $150,813.60 per year; (2) $101,332 per year; (3) $153,116.60 per year; (4) $157,-327.80 per year, or $16,450 per mile for all routes. Chicago Pneumatic Service Co., (1) $142,104 per year, or $15,-500 per mile; (2) $100,749 per year, or $16,500 per mile; (3) $144,150 per year, or $15,500 per mile; (4) $144,274 per year, or $14,500 per mile.

CONTRACT PRICES.

ASPHALT REPAIRS, ETC.—Rochester, N. Y.—The board of contract and supply received the following bids on Jan. 23 for asphalt repairs, and supplying lumber to the city. For Trinidad and vulcanite asphalt, repairs for 1903: Rochester Vulcanite Pavement Co., Trinidad asphalt surface, per sq. yd., $1.28, including 6-in. concrete foundation, $1.88; Rock Asphalt Co., surface $1.60, with 6-in. concrete foundations, $2.36; H. T. Powell, surface $1.49, with 6-in. concrete foundation, $2; Whitmore, Rauber & Vicinus, surface $1.45, with 6-in. concrete foundation, $2.05; Warren Bros., surface $1.39, with 6-in. concrete foundation, $2.39; Barber Asphalt Paving Co., surface $1.42, with 6-in. concrete foundation, $2.07. For lumber: Otis Lumber Co., white pine, $26.75 per 1,000 ft.; white oak, $28; beech, $18; hemlock, $17. Robert Dewart, white pine, $29; white oak, $27; beech, $19.75; hemlock, $16.75.

PARK.—New York, N. Y.—The following bids were received by the Department of Parks, Arsenal Bldg., Central Park, Jan. 8 for the construction of the Thomas Jefferson Park at 114th St. and East River; all bidders of New York:

Bids Received at New York, N. Y., Jan. 8, 1903, for Constructing Park, 114th St. and East River.

Quantities.		T. E. & T. Crimmins, 438 E. 69th St.	Cunningham & Kearns, 307 E. 86th St.	Part. Dunn, 444 E. 68th St.	Kelly & Kelley, 45 E. 42d St.	John J. McQuade, 1289 Lexington Ave.	P. J. Moran, New York.	F. V. Smith Con. Co., 147 E. 125th St.	Louis Wechsler, Broadway and 26th St.
Fine axed 6-in. bluestone	2,700 lin. ft..	$2.85	$1.85	$1.57	$1.70	$1.75	$2.00	$1.80	$1.50
2½-in. edging	10,700 " "	1.30	.75	.77	.80	.90	1.00	.80	1.00
Rock asphalt pacement.	211,000 sq. ft...	.28	.20	.22	.20	.255	.25	.25	.25
Walk basins	56 each...	50.00	30.00	36.85	140.00	50.00	34.00	40.00	75.00
Surface basins	14 " ...	35.00	35.00	70.35	250.00	50.00	50.00	40.00	85.00
Receiving basins	2 " ...	250.00	175.00	172.00	250.00	200.00	350.00	200.00	200.00
6-in. terra cotta pipe..	1,250 lin. ft..	.60	.50	.30	1.00	.75	.50	.30	.50
8-in. " " " ..	1,700 " "	.70	.70	.40	2.00	.85	.70	.40	.60
12-in. " " " ..	500 " "	3.00	1.00	.70	3.00	1.50	3.00	.60	.80
Water supply system		4,500	10,400	4,139	10,500	6,500	4,195	6,000	12,000
Subsoil irrigation system.....		9,918	9,950	6,580	10,500	7,000	8,150	4,500	43,000
Play grounds	2.....	3,500	6,012	4,039	12,350	2,000	4,174	5,500	11,500
Gymnasiums	2.....	3,250	7,770	3,837	12,350	2,500	4,782	6,000	11,500
Iron fence, 6 ft. high..	2,250 lin. ft..	5.25	3.44	4.12	3.40	4.50	5.00	5.25	3.25
Iron fence, 5½ ft. high.	2,900 " "	4.90	3.40	4.08	3.20	4.25	4.70	5.25	3.00
3-rail pipe fence	5,360 " "	.85	.70	.84	.65	1.00	1.10	1.25	.75
Garden mold	15,500 cu. yds.	1.75	1.90	1.30	1.25	1.40	1.20	2.00	2.00
Manure	2,585 " "	2.00	1.00	2.22	1.00	1.40	1.25	1.25	1.50
Sod	278,800 sq. ft...	.03	.018	.015	.01	.035	.018	.03	.018
Temporary fence	930 lin. ft..	1.00	1.00	1.20	1.00	1.00	1.25	1.50	1.00
Total		$188,200	$167,225	$146,958	$189,832	$161,510	$164,375	$181,953	$237,054

EXCAVATION.—Buffalo, N. Y.—The following bids were received by Maj. T. W. Symons, U. S. Engrs., Buffalo, on Jan. 22, 1905, for the channel and basin excavation in Black Hole Rock Harbor and Erie Basin; in the channel about 20% is rock and 80% earth; in the basin, 87½% is rock and 12½% earth; rock, hard and flinty; all local bidders, except Daly & Hannan Dredging Co., of Ogdensburg, and the L. P. & J. A. Smith Co., of Cleveland; (1) channel excavation (rock and sand), 300,000 cu. yds; (2) basin excavation, 325,000 cu. yds.; (3) handling rock with derrick, 5,000 tons:

	1.	2.	3.	Total.
Jas. B. Donnelly	$3.00	$2.90	$1.10	$1,848,000
Daly & Hannan Dredging Co.	1.15	2.22	1.00	1,071,500
Lake Erie Dredging Co.....	.76	2.42	1.20	1,020,500
Buffalo Dredging Co.....	.66	1.84	1.25	802,250
The L. P. & J. A. Smith Co..	.80	2.86	2.00	1,179,500

ASPHALT PAVING.—Sioux City, Pa.—The following bids were received by the council on Jan. 20 for asphalt paving: (1) Seventh St., (2) West Third St., (3) Sixth St. Hanson Bros. (1), $1.95 per sq. yd.; (2) $1.96, (3) $1.95. M. L. Flynn (1, 2 and 3), $1.93; C. F. Lyle (1, 2 and 3), $2.30.

SEWERS.—Milwaukee, Wis.—The contract for the track depression sewers in North and Oakland Aves., was awarded to R. J. Hickey on Jan. 16 at $14.47 per lin. ft.

U. S. POSSESSIONS AND CUBA.

CAPITOL BUILDING.—Havana, Cuba.—The House of Representatives has appropriated the sum of $300,000 for the construction of a capitol building.

RAILWAY.—Honolulu, H. I.—Jacob Coerper, Gen. Mgr., has stated that the work of construction has been started on the Konakau Ry. Co.'s line. The first contract is for the section of 120 miles, from Napoopoo to a point below the Volcanic House.

WATER SUPPLY.—Juneau, Alaska.—The Juneau Water Power Co. has submitted a proposition to the city council to furnish the city with water for fire purposes. A reservoir will be constructed with capacity of 610,000 gallons. The pipe from Salmon Creek, the source of supply, will deliver 1,400,000 gallons of water into the reservoir every 24 hours.

IMPROVEMENTS.—Hawaii.—The following bills have been introduced in the legislature at Washington, D. C., for public improvements: Appropriating $1,000,000 for public buildings at Honolulu, and $750,000 for public buildings at Hilo; appropriating $100,000 for the protection of the harbor at Hilo, and $750,000 for Honolulu harbor and $75,000 for light houses along the Hawaiian coast.——Superintendent of Public Works Cooper, in his report to the legislature, has recommended the remodelling of that portion of the water front between the Naval wharves and the Oceanic wharves. The plan in general comprehends the extension of the wharves to the harbor line. The wharf at the leper settlement at Kalaupapa on Molokai, was partly destroyed by a storm on Jan. 7. Superintendent McVeigh is preparing plans for the rebuilding of the wharf, and the same will be sent to the board of health in Honolulu.

FOREIGN CONTRACTS—EXPORT NEWS.

COTTON MILL.—Chihuahua, Mex.—Bernard Bucher, who owns a cotton factory in this city, is reported to be preparing to establish another factory at Mapimi, in the State of Durango, and expects to begin construction this month.

RAILWAY.—Chili.—The Chilian Congress is reported to have approved the bill authorizing the government to invite tenders for the construction of a trans-Andine railroad on the basis of a guarantee of 5% interest on the cost of the work.

ELECTRIC TRAMWAYS.—Spain.—Application has been made by Don Antonio Hombet, director of the Madrid Electric Traction Co., for a concession for certain electric tramways in Madrid. Applications for the same franchise will be received until Feb. 8.

ELECTRIC TRACTION.—Peru.—The Peruvian government is reported to be about to grant a concession for an electric traction system to connect the seaside resorts of Miraflores, Barranco and Chovillos with Lima, a distance of 16 miles. Double track will be laid.

RAILWAYS.—Russia.—The U. S. Consul-General at St. Petersburg, in a recent report, states that since the return of the Russian Minister of Ways and Communications from an inspection tour of the Caucasus it has been announced that plans for building a network of narrow-gage railways are under discussion. It is proposed to authorize the organization of private companies to build these lines, the government to indorse their bonds to the amount of nearly $250,000,000.

ELECTRIC LIGHTING.—Portugal.—The contract entered into by the municipal council of Cintra and the Railway Co. from Cintra to Paria das Macas, conceding to the latter a monopoly for the public and private lighting by electricity of the towns of Cintra and Collaras, has been approved of.

SHIP YARD.—France.—A syndicate is said to have been formed by G. W. Sheldon & Co., of Chicago, London and Paris, including a number of French capitalists, which has acquired the shipbuilding yards of the Chautiers Maritimes, of Bordeaux. It is said that the new owners propose to improve and modernize the new yards in every detail.

HYDRAULIC WORKS.—Mexico.—A concession is said to have been granted to G. Brockman, of the City of Mexico, for building hydraulic works to utilize the storm waters of Tialpujahua River, in the districts of Ixtlahuaca and Maravatio, in the states of Mexico and Michoacan, for the development of motive power for industrial purposes.——The American engineering and contracting firm of Fogarty & Dickerson, City of Mexico and Monterey, has secured a contract from the municipal government of Coluna, Mex., for the installation of a large electric light plant in that city, which will be operated by that firm for a period of 25 years.

WIRELESS TELEGRAPHY STATIONS.—Italy.—The Minister of Posts and Telegraphs, Signor Galimberti, has announced that at the reopening of the Chamber of Deputies he will ask for an appropriation of $150,000 to erect wireless telegraph stations for a service between Italy and Argentina. The work will be directed by Signor Marconi.

IRRIGATION.—Mexico.—Arrangements are said to have been concluded by Miguel Cardenas, Governor of the State of Coahiula, Mex., for the commencement of operations on an irrigation scheme planned to reclaim the arid territory of Laguna de Parras Luis. In connection with the plan, three tunnels will be built.

RAILWAY.—Mexico.—J. G. Metcalf, Pres. Mexican International R. R., Durango, Mex., will, it is stated, go to New York to place before the directors of the company the proposition to construct a branch line from Tepehuanes to Guanacevi in Durango, 95 kilos. It is expected that the road will surely be built. Part of the work will be heavy mountain work and will be costly.

ELECTRICAL EQUIPMENT.—England.—The contract for the electrical equipment of a section of the Northeastern Ry. has been let to the British Thomson-Houston Co., London. The contract includes the supply of electrical equipment of 50 motor cars and 50 trailer cars on the multiple unit system, also for furnishing the collector rail and bonding the track.

ELECTRIC POWER PLANT.—Mexico.—Application has been made to the Department of Fomente by Manuel Macetela, of Tultenango, State of Mexico, for a concession to establish an electric power plant in the El Ore district. The power will be generated from the waters of the Lerma River at a point in the Gigante ranch, State of Michoacan. Authority is asked to take 4½ cu. meters per second from the river.

PORT WORKS.—Russia.—The "Journal de St. Petersbourg" has stated that according to the latest estimate the work of deepening the port of St. Petersburg to a depth of 28 ft. and the construction of quays will cost about $13,720,000. The municipal committee for railways and river communication has recently had under consideration the question of raising a municipal loan in order to realize the necessary amount.

RAILWAY.—Mexico.—We are informed that the Mexican Central Ry. Co. has entered into an agreement with Manuel Gomez, Drs. C. Cordova and Glorencia Luna and another party wherein the company agrees to build a line from Ocetlan, on the Guadalajara branch to Atotonilco, near the Sula River, the other parties agreeing to furnish the right of way free and also to pay a cash bonus. The line will run up the Sula River Valley for a distance of 43 kilometers and be of easy construction. It will require about two years for completion. The road will tap one of the largest orange-raising districts in Mexico, which is practically inaccessible during the rainy season owing to the condition of the roads. L. Kingman, Mexico City, is Ch. Engr. Mexican Central Ry.

RAILWAYS.—South Africa.—The directors of the British South Africa Co., who recently visited Rhodesia, have decided to expend $10,000,000 on railroads in South Africa. G. Bie Ravndal, U. S. Consul, of Beirut, in a communication to the State Department, states that one-half of the sum will be used next year on railroad construction south of the Zambezi and the other $5,000,000 will be devoted for the purpose of carrying the "Cape to Cairo" line some 300 miles south of the Zambezi to the head of the Kafue, in which region extensive discoveries of copper, lead and zinc have been made. When these projects have been carried out, Rhodesia will have more than 2,500 miles of railway.——Consul Ravndal also states that a company, with a capital stock of $10,000,000, will be organized within six months with head offices in Lisbon, Portugal, to construct the railway, from Labito Bay, on the west coast of Africa, to Katanga, some 870 miles, for which a concession was recently granted to Robert Williams. The road will form a feeder to the "Cape to Cairo" line, and must be completed within eight years from Jan. 1. Only 1,300 miles more of railway will need be constructed on the "Cape to Cairo" line, the rest will be by water, crossing the lakes and fol-

Information concerning contracts to be let or of supplies to be purchased, and corrections of errors and omissions in published items, are invited.

lowing the course of the Nile. For information regarding the Cape to Cairo Ry., and its branches, correspondence should be addressed to J. F. Jones, Secy. British South Africa Co., Ltd., 15 St. Swithin's Lane, London, E. C.

INDUSTRIAL NOTES.

THE CAMPBELL-FLAGLER BRIDGE CO., Council Bluffs, Ia., will continue the business of the late C. E. H. Campbell, Bridge Engineer and Contractor, with J. M. Flagler as Manager. Mr. Flagler was associated with Mr. Campbell for 22 years.

THE McCLARY MFG. CO., manufacturers of stoves, furnaces, tinware, etc., of London, Ont., whose plant was recently burned at a loss of about $100,000, has rebuilt on the site of the destroyed works, and is now doing business as usual. The company has informed us that its output during the week ending Jan. 24 was heavier than the week before the fire.

THE FIRM OF McSHANE, ELMORE & CO., grading contractors of Omaha, Neb., has dissolved, and the business of the firm will in the future be conducted by Mike Elmore, the junior member of the firm. The old firm of McShane & Co., which was succeeded by the first-named company, will be revived by J. H. and M. J. McShane, Omaha, the senior members of the dissolved firm.

THE C. O. BARTLETT & SNOW CO., Cleveland, O., has recently received orders for its grill four compartment dryer from the following firms: Bronson Portland Cement Co., Bronson, Mich.; Illinois Central R. R., Chicago; Colonial Construction Co., Hudson, N. Y.; also erecting one for the St. Louis Portland Cement Co., St. Louis, Mo., and for the Egyptian Portland Cement Co., Detroit, Mich.

THE McGARLAND CO., Bay City, Mich., reports the following partial list of shipments for the week ending Jan. 17: Two Kline patented log loaders to Filer & Sons, Filer City, Mich.; export shipment to Moulthrop Lumber Co., Cutler, Ont.; one four-saw Garland lath bolter to D. J. Murray Mfg. Co., Wausau, Wis.; one Kline patented log loader to Allis-Chalmers Co., Milwaukee, Wis.; one 42 ft. steam feed with double end rotary valves complete, to Ironton Lumber Co., Ironton, O.

PUBLICATIONS RECEIVED.

IRRIGATION INSTITUTIONS.—A Discussion of the Economic and Legal Questions Created by the Growth of Irrigated Agriculture in the West. By Elwood Mead, C.E., Chief of Irrigation Investigations, U. S. Department of Agriculture. New York: The Macmillan Co. Half-leather; 5 × 8 ins.; pp. 392; illustrations. $1.25, net; by mail, $1.33.

MANUAL FOR RESIDENT ENGINEERS.—Containing General Information on Construction. By F. A. Molitor and E. J. Beard. Cloth; 5 × 7 ins.; pp. 118; tables and illustrations. $1.

DIFFERENTIAL CALCULUS FOR BEGINNERS.—By Alfred Lodge, Professor of Pure Mathematics at the Royal Indian Engineering College, Cooper's Hill. With an Introduction by Sir Oliver J. Lodge. London: Geo. Bell & Sons. New York: The Macmillan Co. Cloth; 5 × 7 ins.; pp. 278; illustrations. $1 net.

GAS MANUFACTURE FOR STUDENTS.—By John Hornby. London: Geo. Bell & Sons. New York: The Macmillan Co. Cloth; 5 × 7 ins.; pp. 265; 6 plates and 65 figures. $1.50.

NEW PUBLICATIONS.

PROGRESS REPORTS: AMERICAN RAILWAY ENGINEERING AND MAINTENANCE OF WAY ASSOCIATION.—Published by the Association, 1562 Monadnock Block, Chicago. Paper; 8vo; pp. 28.

The Board of Directors has been keeping in touch with the committees in order to stir them to action, and this bulletin contains progress reports from all the 15 committees, showing what work has been done and what subjects have been taken up for consideration.

TRADE PUBLICATIONS.

(The standard sizes for pamphlets and trade catalogues recommended by all the principal engineering societies of the United States are: 3½ x 6 ins., 6 x 9 ins., and 9 x 12 ins.)

BRASS PRODUCTS.—The Michigan Brass & Iron Works, Detroit, Mich. Paper; 4 × 7 ins.; pp. 42; illustrated.

This is a handsomely illustrated price-list of various kinds of brass gates, radiator valves, hose couplings and the like.

CRUSHERS, ROLLS AND PULVERIZERS.—Allis-Chalmers Co., Home Insurance Building, Chicago. Paper; 6 × 9 ins.; pp. 44; illustrated.

This includes gyratory and jaw crushers of different types, crushing rolls, and a complete description of ball-rotary cylinder mills for fine pulverizing.

HUNTINGTON QUARTZ MILL.—Allis-Chalmers Co., Chicago. Paper; 6 × 9 ins.; pp. 41; illustrated.

This pamphlet is devoted mainly to descriptions, drawings and testimonials of the Huntington centrifugal roller quartz mill, together with detail instructions for erecting and a set of specifications for a free gold-milling plant equipped with a 5-ft. Huntington mill.

PUMPING MACHINERY.—Laidlaw-Dunn-Gordon Co., Elmwood Place, near Cincinnati, O. Paper; 6 × 9 ins.; pp. 168; tables and illustrations.

This is a general catalogue of the various classes of pumping machinery made by this company. It contains longitudinal sections of a number of different pumps and outline sketches of the parts on the opposite pages, the parts in both instances being numbered.

CRUSHING ROLLS.—Allis-Chalmers Co., Chicago. Paper; 6 × 9 ins.; pp. 63; illustrated.

This catalogue describes various types and sizes of rolls for rock crushing, giving data as to wear of rolls, capacity, horse-power required to operate, arrangement in the mill, etc. Automatic roll feeders are also shown and described, followed by a brief description of gyratory and jaw crushers with their respective capacities.

INTERLOCKING AND SIGNALING DEVICES.—The Union Switch & Signal Co., Swissvale, Pa. Paper; 6 × 9 ins.; pp. 106; illustrated.

This is Section 2 of the company's series of catalogues and includes mechanical ground connections and lead-out appliances. It consists almost entirely of half-tone engravings of detail parts, with lists of dimensions and prices. With the book is a bulletin descriptive of the Kopp solid color glass for use in signaling lamps.

RIEDLER PUMPS.—Allis-Chalmers Co., Chicago, Ill. Paper; 6 × 9 ins.; pp. 187; illustrated.

The first few pages are devoted to an explanation of the Riedler pumps and its special features and parts, including the water valves. A variety of styles of these pumps for different purposes are then illustrated and described, together with tables of dimensions, indicator cards, etc. One section of the book is devoted to the use of these pumps for irrigation purposes.

CONCENTRATING MACHINERY.—Allis-Chalmers Co., Chicago. Paper; 6 × 9 ins.; pp. 104; illustrated.

This is an illustrated descriptive catalogue of individual devices and complete plans for coarse and fine concentration of ores. In addition to the general descriptions there is a reprint of an article describing one large mill. The illustrations include not only general views, but also sectional and detail drawings. Tables of sizes, weights, etc., accompany the descriptions of the several appliances, vanners, pulverizers, jigs, stamps, classifiers, etc.

WATER-WORKS.

St. Francisville, La.

Sealed proposals for the construction of a System of Water-Works at St. Francisville, La., according to plans and specifications of C. H. Jenks, Engr., will be received by the Board of Mayor and Aldermen, in the Mayor's Office, at St. Francisville, La., until 2 p. m. Feb. 18, 1903, and then publicly opened. Each proposal must be made out upon a form provided by the town and must be accompanied by a certified check equal to 5% of total amount of proposal, made payable, without reserve, to the Treasurer of the Town of St. Francisville, La. A surety company bond, equal to 50% of contract, will be required of the person to whom award is made. Plans and specifications may be seen at the Mayor's office. The right is reserved to reject any or all proposals. For synopsis of specifications, instructions to bidders and form of proposal, address Hon. Jos. L. Golson, St. Francisville, La. Proposals are also invited upon an Electric Light Plant, subject to the same conditions. C. H. JENKS, Engineer.

5-3t Fayette, Miss.

U. S. ENGINEER OFFICE, Newport, R. I., Jan. 7, 1903.—Sealed proposals for Dredging Providence Harbor, R.I., will be received here until 11 a. m., Feb. 12, 1903, and then publicly opened. Information furnished on application. GEO. W. GOETHALS, Major, Engrs. 3-4t

U. S. ENGINEER OFFICE, 1637 Indiana Ave., Chicago, Ill., Jan. 8, 1903.—Sealed proposals for dredging in Calumet River, Ill., will be received here until 12 noon, Feb. 10, 1903, and then publicly opened. Information on application. O. H. ERNST, Lieut.-Col., Engrs. 3-4t

U. S. ENGINEER OFFICE, Winthrop Bldg., Boston, Mass., Jan. 12, 1903.—Sealed proposals for construction of breakwater at Gloucester Harbor, Mass., will be received here until 12 m., Feb. 12, 1903, and then publicly opened. Information furnished on application. HARRY TAYLOR, Capt., Engrs. 3-4t

U. S. ENGINEER OFFICE, Winthrop Bldg., Boston, Mass., Jan. 17, 1903.—Sealed proposals for delivery of 30,000 tons of rubblestone in jetties at Newburyport Harbor, Mass., will be received here until 12 M., Feb. 18, 1903, and then publicly opened. Information furnished on application. HARRY TAYLOR, Capt., Engrs. 4-4t

U. S. ENGINEER OFFICE, St. Augustine, Fla., Jan. 12, 1903.—Sealed proposals for furnishing material and constructing Jetties at the entrance to St. John's River, Fla., will be received here until 12 noon, Feb. 12, 1903, and then publicly opened. Information furnished on application. FRANCIS R. SHUNK, Capt. Engrs. 3-4t

PROPOSALS FOR PUBLIC BUILDINGS.—Office of Constructing Quartermaster, San Diego, Cal., Jan. 10, 1903.—Sealed proposals in triplicate, will be received at this office until 10 o'clock a. m. Monday, Feb. 9, 1903, and then be opened, for the construction of one Hospital, also for plumbing, heating and electric wiring One Field Officer's Quarters; One double Captains' Quarters; One double Lieutenants' Quarters; One single Artillery Barrack; One Guard House; One Hospital; also for plumbing and wiring One Administration Building; One Bake House; One Hospital Steward's Quarters; One double Non-Commissioned Staff Quarters. U. S. reserves the right to reject or accept any or all bids in whole or in part. Full instructions to bidders will be furnished on application to this office, or at the office of the Chief Quartermasters at San Francisco, Denver, Omaha, St. Paul and Chicago; and the Depot Quartermaster, St. Louis, where plans and specifications may be seen. Proposals must be accompanied by two guaranties justifying jointly, in double the amount of 10% of the bid. Preference will be given to articles of domestic production, cost and quality considered, and to articles of American production produced or manufactured on the Pacific Coast. Envelopes containing proposals should be endorsed, "Proposals for Public Buildings at Fort Rosecrans," and addressed Captain R. H. ROLFE, Quartermaster. 3-4t

U. S. ENGINEER OFFICE, Duluth, Minn., Jan. 19, 1903.—Sealed proposals for pier work and dredging at Port Wing, Wis., will be received here until noon, Feb. 19, 1903, and then publicly opened. Information on application. D. D. GAILLARD, Capt., Engrs. 4-4t

PROPOSALS FOR RIPRAP STONE.—U. S. Engineer Office, Little Rock, Ark., Jan. 8, 1903.—Sealed proposals for furnishing large Riprap Stone for Lock and Dam, Upper White River, Ark., will be received here until noon, Feb. 9, 1903, and then publicly opened. Information furnished on application. GRAHAM D. FITCH, Captain, Engrs. 3-4t

U. S. ENGINEER OFFICE, Army Building, New York, N. Y., Jan. 17, 1903.—Sealed proposals for Dredging in Passaic River, N. J., will be received here until 12 m., Feb. 16, 1903, and then publicly opened. Information furnished on application. C. W. RAYMOND, Lieut.-Col., Engrs. 4-4t

TREASURY DEPARTMENT, Office of the Chicago Building, Washington, D. C., Jan. 16, 1903.—Sealed proposals will be received at this office until 2 o'clock P. M., February 24, 1903, and then opened, for the engine plant of the post office, court house, etc., Chicago, Ill., in accordance with the plans and specifications. Sealed proposals will be, also, received and opened, the same day and hour, for the electrical generators of the above named building. Plans and specifications for each of the two branches of the work, which will be let separately, may be had upon request, accompanied with a certified check of $100.00 (each branch) payable to the Treasurer of the United States, or order. All checks will be remitted upon return of plans and specifications. Address HENRY IVES COBB, Architect Chicago Building, Treasury Department, Washington, D. C. 4-3t

SEWERS.

Office of the Sewerage & Water Board,
602 Carondelet St.,
New Orleans, La., Nov. 17, 1902.

Sealed proposals will be received until 12 m Monday, Feb. 2d, 1903, for the construction of approximately 96 miles of Sewers and appurtenances, of which 7 miles will be brick or concrete sewers from 72 to 27 ins. in diameter, laid from 10 to 24 ft. in depth, and 89 miles will be pipe sewers, from 36 to 8 ins. in diameter, laid from 5 to 20 ft. in depth. There will be approximately 1,100 manholes and 450 flushtanks.

The above work will be divided into eight contracts, and certified checks ranging from $1,500, on the smallest, to $5,000 on the largest contract, must be deposited prior to the submission of their bid by contractors bidding on any contract.

A surety company bond for an amount equal to 25% of the gross amount of each contract will be required of the successful bidder in each case.

Specifications, general plans and blank forms of proposals may be obtained at the office of the Board. After Dec. 15th, 1902, plans and specifications can also be seen at the office of Hering & Fuller, Consulting Engineers, No. 170 Broadway, New York.

The right is reserved to reject all bids.

F. S. SHIELDS,
Temporary Secretary.

GEO. G. EARL,
General Superintendent. 48-10t

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., Jan. 14, 1903.—Sealed proposals will be received at this office until 2 o'clock P. M. on the 18th day of February, 1903, and then opened, for the construction (including heating apparatus, electric wiring, and conduits), of the U. S. Court House, Post Office, etc., extension at Dallas, Texas, in accordance with drawings and specifications, copies of which may be had at this office, or at the office of the Custodian, at Dallas, Texas, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 4-2t

OFFICE OF CONSTRUCTING QUARTERMASTER, Cheyenne, Wyo., Jan. 19, 1903.—Sealed proposals, in triplicate, will be received here until 2 o'clock P. M. mountain time, Feb. 19, 1903, and then publicly opened, for constructing a bakery at Fort D. A. Russell, Wyo. Full information and blank forms of proposal furnished on application. Plans and specifications may be seen here; also in office of Depot Quartermaster at Chicago, New York, Omaha and Denver. United States reserves the right to accept or reject any or all bids or any part thereof. Envelopes containing bids to be marked "Proposals for constructing Bakery at Fort D. A. Russell," and addressed Capt. W. S. SCOTT, Constructing Quartermaster. 4-4t

U. S. ENGINEER OFFICE, Duluth, Minn., Jan. 24, 1903.—Sealed proposals for furnishing and placing about 26,000 tons of Riprap at Ashland, Wis., will be received here until noon of Feb. 24, 1903, and then publicly opened. Information on application. D. D. GAILLARD, Capt., Engrs. 5-4t

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., Jan. 17, 1903.—Sealed proposals will be received at this office until 2 o'clock P. M. on the 5th day of March, 1903, and then opened, for the installation of a conduit and electric wiring system for the U. S. Post Office at Janesville, Wisconsin, in accordance with the drawings and specification, copies of which may be obtained at this office, or the office of the Superintendent of Construction at Janesville, Wis., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 4-2t

OFFICE CONSTRUCTING Q. M., Burlington, Vt., Jan. 20, 1903.—Sealed proposals, in triplicate, will be received until 12 m., Feb. 20, 1903, for constructing, heating, plumbing, gas piping, electric wiring of two barracks and one bachelor officers' quarters, constructing and plumbing of two stables and constructing two gun sheds at Fort Ethan Allen, Vt. Information furnished on application. U. S. reserves right to reject or accept any or all bids or any part thereof. Envelopes containing proposals to be indorsed "Proposals for Public Buildings, Fort Ethan Allen, Vt." Captain T. B. LAMOREUX, Q. M. 4-4t

U. S. ENGINEER OFFICE, Winthrop Bldg., Boston, Mass., Jan. 20, 1903.—Sealed proposals for delivery of 25,000 tons of rubblestone in breakwater at Isles of Shoals, Me., will be received here until 12 M., Feb. 20, 1903, and then publicly opened. Information furnished on application. HARRY TAYLOR, Capt., Engrs. 4-4t

U. S. ENGINEER OFFICE, Army Bldg., New York, Jan. 20, 1903.—Sealed proposals for dredging in Canarsie Bay, N. Y., will be received here until 12 M., Feb. 20, 1903, and then publicly opened. Information furnished on application. S. M. MANSFIELD, Col., Engrs. 4-4t

U. S. ENGINEER OFFICE, Winthrop Bldg., Boston, Mass., Jan. 10, 1903.—Sealed proposals for delivery of 300,000 tons of Rubble Stone in breakwater at Sandy Bay, Mass., will be received here until 12 m., Feb. 10, 1903, and then publicly opened. Information furnished on application. HARRY TAYLOR, Capt., Engrs. 3-4t

PROPOSALS FOR THE CONSTRUCTION OF SEWERS.—Office of the Commissioners, D. C., Washington, D. C., Jan. 14, 1903.—Sealed proposals will be received at this office until 12 o'clock m., Feb. 14, 1903, for constructing Sewers. Forms, specifications and necessary information may be obtained at this office. HENRY B. F. MACFARLAND, HENRY L. WEST, JOHN BIDDLE, Commissioners, D. C. 4-4t

In Writing to Advertisers
Please Mention ENGINEERING NEWS.

CONTINUED FROM PAGE XXXIV.

ADVERTISERS' CLASSIFIED DIRECTORY.

Pipe Tapping Machines (see Tapping Machines).

Plows (see Scrapers and Plows).

Plumbers' Supplies.
Campbell, J G, Brass Works, Cascade st, Erie, Pa
Cow, J B, & Sons, Lake and Franklin sts, Chicago
Millar, Chas, & Son Co, Utica, N Y

Pneumatic Tools.
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Cleveland Pneumatic Tool Co, Cleveland
Helwig Mfg Co, St Paul, Minn
Philadelphia Pneumatic Tool Co, Philadelphia
Slocomb, F F, & Co, Wilmington, Del
(see also Riveting Machines)

Poles (Wooden)
(see Piling.)

Portable Light (see Light, Contractors').

Portable Tracks.
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Koppel, Arthur, 68 Broad st, New York
Wonham-Magor Eng. Wks, 29 Broadway, New York

Power Hammers.
Merrill Bros, 467 Kent ave, Brooklyn, N Y

Power Transmission (Electric).
General Electric Co, Schenectady, N Y
Leffel, Jas, & Co, Springfield, O
Pelton Water Wheel Co, 134 Main st, San Francisco
Westinghouse Electric & Mfg Co, Pittsburg

Power Transmission (Rope).
Caldwell, H W, & Son Co, 17th st & Western ave, Chic
Cresson, Geo V, Co, Philadelphia
Dodge Mfg Co, Mishawaka, Indiana
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Jeffrey Mfg Co, Columbus, O
Link Belt Engineering Co, Nicetown, Phila

Press (Artificial Stone).
Palmer, Noyes F, 150 Snediker ave, Brooklyn, N Y

Pressure Gages (Recording)
Bristol Co, Waterbury, Conn

Pressure Regulators
d'Esté, Julian, Co, 15 Canal st, Boston
Foster Engineering Co, Newark, N J
Union Water Meter Co, Worcester, Mass

Pulleys.
Dodge Mfg Co, Mishawaka, Indiana

Pulverizers (Ore and Cement).
Allis-Chalmers Co, Home Ins bldg, Chicago
Bradley Pulverizer Co, 92 State st, Boston, Mass
Clark J C, Box 525, Atlanta, Ga
Cresson, Geo V, Co, Philadelphia
Kent Mill Co, 170 Broadway, New York
Newell Mfg Co, 149 Broadway, New York
Smidth, F L & Co, 66 Maiden lane, New York
West Pulverizing Machine Co, Jersey City, N J

Pumps and Pumping Machinery.
Allis-Chalmer Co, Home Ins bldg, Chicago
American Well Works, Aurora, Ill
Barr Pumping Engine Co, Philadelphia
Blake, Geo F, Mfg Co, 91 Liberty st, New York
Bonnot Co, Canton, Ohio
Cameron, A S, Steam Pump Works, New York
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Cook Well Co, St Louis
d'Auria Pumping Engine Co, 941 Drexel bldg, Phila
Davidson, M T, 52 Keap st, Brooklyn, N Y
Dean Bros' Steam Pump Works, Indianapolis, Ind
Deane Steam Pump Co, Holyoke, Mass
Deming Co, Salem, Ohio
Downie Pump Co, Downieville, Pa
Edwards, Jos, & Co, 414 Water st, New York
Epping-Carpenter Co, Pittsburg
Fairbanks, Morse & Co, Chicago
Flint & Walling Mfg Co, Kendallville, Ind
Goulds Mfg Co, Seneca Falls N Y
Guild & Garrison, So 10th st, Brooklyn, N Y
Hill Machine Co, Anderson, Ind
Heisler Pumping Engine Co, Erie, Pa
Knowles Steam Pump Works, 81 Liberty st, N Y
Laidlaw-Dunn-Gordon Co, Cincinnati, O
Lake City Engineering Co, Erie, Pa
Lawrence Machine Co, Lawrence, Mass
McGowan, John H, Co, Cincinnati, Ohio
Norwalk Iron Works Co, South Norwalk, Conn
Pulsometer Steam Pump Co, 135 Greenwich st, N Y
Quimby, Wm E, 141 Broadway, N Y
Roots, P H & F M, Co, Connersville, Ind
Scranton Steam Pump Co, 151 Franklin ave, Scranton
Snow Steam Pump Works, 120 Liberty st, New York
Southwark Foundry & Machine Works, Philadelphia
Stilwell-Bierce & Smith-Vaile Co, Dayton, Ohio
Toomey, Frank, 172 N 3d st, Philadelphia
U S Wind Engine & Pump Co, Batavia, Ill
Wood, P K, 209 No Main st, Los Angeles, Cal
Wood, R D, & Co, Philadelphia
Worthington, Henry R, Brooklyn, N Y

Pumps (Air Lift).
Bacon Air Lift Co, 100 Broadway, New York
Ingersoll-Sergeant Drill Co, Havemeyer bldg, N Y
Pneumatic Engineering Co, 128 Broadway, N Y

Pumps (Artesian Well).
Downie Pump Co, Downieville, Pa
Wood, P K, 209 No Main st, Los Angeles, Cal

Pumps (Centrifugal).
Baldwinsville (N Y) Centrifugal Pump Works
Bucyrus Co, South Milwaukee, Wis
Edwards, Jos, & Co, 414 Water st, New York
Erie Pump & Engine Co, Erie, Pa
Kingsford Foundry & Machine Works, Oswego, N Y
Lake City Engineering Co, Erie, Pa
Lawrence Machine Co, Lawrence, Mass
Morris Machine Works, Baldwinsville, N Y
Temple Pump Co, 13th Place, Chicago
Wood, R D, & Co, Philadelphia

Pumps (Diaphragm).
Boston & Lockport Block Co, 180 Commercial st, Boston
Edson Mfg Co, 235 Atlantic ave, Boston

Pumps (Electric).
Deming Co, Salem, Ohio
Goulds Mfg Co, Seneca Falls, N Y
Quimby, Wm. E, 141 Broadway, New York
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Worthington, Henry R, Brooklyn, N Y

Pumps (House Service).
Quimby, Wm E, 141 Broadway, New York

Pumps (Mining)
Goulds Mfg Co, Seneca Falls, N Y
Pneumatic Engineering Co, 128 Broadway, N Y
Pulsometer Steam Pump Co, 135 Greenwich st, N Y
Snow Steam Pump Works, 120 Liberty st, New York
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Wood, P K, 209 No Main st, Los Angeles, Cal

Pumps (Oil).
Sterrett Pump Co, 69 E 6th st, St. Paul

Pyrometers.
Bristol Co, Waterbury, Conn

Quarrying Machinery.
Flory, S, Mfg Co, Bangor, Pa
Ingersoll-Sergeant Drill Co, 26 Cortlandt st, New York
Rand Drill Co, 128 Broadway, New York
Sullivan Machinery Co, 135 Adams st, Chicago
Tyrone Foundry & Machine Co, Tyrone, Pa

Rack Railways.
Hildenbrand, Wm, 1 Broadway, New York

Rail Fastenings.
Continuous Rail Joint Co of America, Newark, N J
National Elastic Nut Co, Milwaukee
N Y Rail Insulation & Equip Co, 200 Market st, Newark
Weber Ry Joint Mfg Co, Cotton Exch bldg, N Y

Rail Joints.
Bonzano Rail Joint Co, 22 South 13th st, Philadelphia
Continuous Rail Joint Co of America, Newark, N J
McConway & Torley Co, Pittsburg, Pa
Weber Ry Joint Mfg Co, Cotton Exch bldg, N Y

Rails (Relaying).
Donaldson & Newton, 421 Chestnut st, Philadelphia
Grant & Harper Machy Co, Park Row bldg, New York
Hyde Bros, 302 Lewis bldg, Pittsburg
Johnson, Chas F, 908 Ellicott square, Buffalo
May & Spalding, Atlanta, Ga
Robinson & Orr, 419 Wood st, Pittsburg
Tallon, C J, 308 Market st, San Francisco

Rails (Steel).
Buffalo Steel Co, Tonawanda, N Y
General Supply & Const'n Co, 8-10 Bridge st, N Y
Koppel, Arthur, 68 Broad st, New York
Pennsylvania Steel Co, Steelton, Pa

Railway Equipment (Dealers).
Apex Equipment Co, 11 Broadway, New York
Carlin, W J, Co, 26th and Railroad sts, Pittsburg
Crane, A M, & Co, Rookery, Chicago
Fitz-Hugh & Co, Monadnock bldg, Chicago
Low, Edgar S, Co, Empire bldg, Pittsburg
Males Co, Ætna bldg, Cincinnati
Pease Car & Loco Works, 277 Dearborn st, Chicago
Schoonmaker, A G, Co, 126 Liberty st, New York
Shannon, J Jacob, & Co, 1744 Market st, Philadelphia
Torbert & Peckham, 1605 Monadnock block, Chicago
Watson, Benjamin, 66 Beaver st, New York

Railway Signals (Pneumatic)
Pneumatic Signal Co, Broad-Exchange bldg, N Y

Railway Ties.
American Creosote Works, Ltd, New Orleans La
New Orleans Wood Preserving Works, New Orleans
Vanderbilt & Hopkins, 126 Liberty st, New York
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Railway Track Specialties.
Diamond State Steel Co, Wilmington, De
N Y Switch & Crossing Co, Hoboken, N J
Railroad Supply Co, Bedford bldg, Chicago
Ramapo Iron Works, Hillburn, N Y
Weir Frog Co, Cincinnati, Ohio

Railways (Industrial).
Koppel, Arthur, 68 Broad st, New York
Treadwell, M H, & Co, 95 Liberty st, New York
Wonham-Magor Eng. Wks, 29 Broadway, New York

Riveting Machines.
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Allen, John F, 370 Gerard ave, New York
Havana Bridge Works, Montour Falls, N Y
Manning, Maxwell & Moore, 85 Liberty st, New York
Rand Drill Co, 128 Broadway, New York
Wood, R D, & Co, 400 Chestnut st, Philadelphia Pa
(see also Pneumatic Tools.)

Road Rollers and Machinery.
Acme Road Machinery Co, Frankfort, N Y
Austin, F C, Mfg Co, Harvey, Ill
Buffalo Pitts Steam Roller Works, Buffalo, N Y
Climax Road Machine Co, Marathon, N Y
Erie Machine Shops, Erie, Pa
Goods Roads Machinery Co, Kennett Square, Pa
Harrisburg Foundry & Mach Co, Harrisburg, Pa
Heisler, Chas L, Erie, Pa
Iroquois Iron Works, 178 Walden ave, Buffalo, N Y
Kelly-Springfield Road Roller Co, Springfield, O
Port Huron Engine Co, Port Huron, Mich
Oastler, W C, 156 Fifth ave, New York
Scholl, Julian, & Co, 126 Liberty st, New York
Western Wheeled Scraper Co, Aurora, Ill

Rock and Ore Crushers.
Acme Road Machinery Co, Frankfort, N Y
Allis-Chalmers Co, Home Ins bldg, Chicago
Aultman Co, Canton, Ohio
Austin, F C, Mfg Co, Harvey, Ill
Bradley Pulverizer Co, 92 State st, Boston, Mass
Climax Road Machine Co, Marathon, N Y
Cresson Co, Geo V, Philadelphia
Farrel Foundry & Machine Co, 26 Cortlandt st, N Y
Good Roads Machinery Co, Kennett Square, Pa
Scholl, Julian, & Co, 126 Liberty st, New York
Smidth, F L & Co, 66 Maiden lane, New York
Steele & Condict, Pearl and Steuben sts, Jersey City
Sturtevant Mill Co, 108 Clayton st, Boston
Tyrone Foundry & Machine Co, Tyrone, Pa
Western Wheeled Scraper Co, Aurora, Ill

Rock Drills.
American Diamond Rock Drill Co, 95 Liberty st, N Y
Davis Calyx Drill Co, 128 Broadway, New York
Ingersoll-Sergeant Drill Co, Havemeyer bldg, N Y
McKiernan Drill Co, 170 Liberty st, N Y
Rand Drill Co, 128 Broadway, New York
Rogers, John M, Gloucester City, N J
Sullivan Machinery Co, 135 Adams st, Chicago, Ill
Wood Drill Works, 30 Dale ave, Paterson, N J

Rolling Doors, Partitions, etc. (Steel)
Kinnear Mfg Co, Columbus, Ohio
Wilson, J G, 3 W 29th St, New York

Roofing.
Standard Paint Co, 103 William st, New York

Roofing (Corrugated).
Garver Iron & Steel Co, Coe and Lake sts, Cleveland
Scaife, W B, & Sons Co, Pittsburg

Rope (Manila).
Dodge Mfg Co, Mishawaka, Indiana
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Smith, S Morgan, Co, York, Pa

Scales (Weighing).
Fairbanks, Morse & Co, Chicago
Richardson Scale Co, 13 Park Row, New Yor

Schools (Correspondence).
Am. School at Armour Inst of Tech, Chicago
International Correspondence Schools, Scranton, Pa
Penn. Corres. Schools, Hamilton bldg, Pittsburg
(For Directory of Engineering Schools see p. 4.)

Scrapers and Plows.
Austin Mfg Co, Manhattan bldg, Chicago
Contractors' Plant Mfg Co, Buffalo, N Y
Climax Road Machine Co, Marathon, N Y
Good Roads Machinery Co, Kennett Square, Pa
Smith & Sons Mfg Co, Kansas City, Mo
Syracuse Chilled Plow Co, Syracuse, N Y
Western Wheeled Scraper Co, Aurora, Ill

Screens (Stone and Sand).
Allis-Chalmers Co, Home Ins bldg, Chicago
Aultman Co, Canton, O
Climax Road Machine Co, Marathon, N Y
Harrington & King Perforating Co, Chicago, Ill
Steele & Condict, Pearl and Steuben sts, Jersey City
Taylor Iron & Steel Co, High Bridge, N J

Screens (Water-Works).
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y

Seamless Drawn Tanks and Tubes.
National Tube Co, Pittsburg

Separators (Oil and Steam).
Harrison Safety Boiler Wks, 3166 N 17th st, Phila
Robertson, Jas L, & Sons, 192 Fulton st, New York

Sewage Disposal.
Cameron Septic Tank Co Monadnock block, Chicago

Sewer Braces.
Dunn Mfg Co, Pittsburg, Pa
Potter Mfg Co, 2010 N W ave, Indianapolis, Ind

Sewer and Street Castings.
Permanent Mfg Co, Am Trust Bldg, Cleveland, O
Sessions Foundry Co, Bristol, Conn
(see also Castings, Iron.)

Sewer Pipe (see Pipe, Vitrified)

Shafting.
Cresson, Geo V, Philadelphia
Dodge Mfg Co, Mishawaka, Indiana
Poole, Robt, & Son Co, Baltimore, Md

Sheet Iron Work.
Am Sheet Steel Co, Battery Park bldg, New York
Petroleum Iron Works Co, Washington, Pa
Scaife, Wm B, & Sons Co, Pittsburg

Sheet Steel.
Am Sheet Steel Co, Battery Park bldg, New York
American Steel & Wire Co, New York & Chicago

Shutters (Fire Proof).
Kinnear Mfg Co, Columbus, Ohio

Skylights.
National Skylight & Const'n Co, 120 Liberty st, N Y
Plenty, Josephus, Jersey City, N J
Valle & Young, Baltimore, Md

Sluice Gates.
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y

Smoke Stacks (see Stand-Pipes and Tanks).

Speed Governors.
Foster Engineering Co, Newark, N J

Stamp Mills.
Allis-Chalmers Co, Home Ins bldg, Chicago

Stand-Pipes and Tanks.
Brownell & Co, Box 913, Dayton, O
Caldwell, W E, Co, 200 East Main st, Louisville, Ky
Carroll-Porter Boiler & Tank Co, Pittsburg, Pa
Chicago Bridge & Iron Co, Chicago
Columbiana Boiler Co, Columbiana, O
Du Bois Iron Works, Du Bois, Pa
Enterprise Boiler Co, Youngstown, O
Gem City Boiler Co, Dayton, O
Girard Boiler & Mfg Co, Girard, O
Hodge Boiler Co, East Boston, Mass
Keeler, E, Co, Williamsport, Pa
King Bridge Co, Cleveland, O
Means & Fulton Iron Works, Birmingham, Ala
Meehan Boiler & Construction Co, Lowellville, O
North Penn Iron Co, 3d and Sedgley ave, Phila
Petroleum Iron Works Co, Washington, Pa
Riter-Conley Mfg Co, Pittsburg, Pa
Scaife, Wm B, & Sons Co, Pittsburg
Sharon Boiler Works, Sharon, Pa
Smith, Theo, & Sons Co, Jersey City, N J
Snow, T W, 360 Dearborn st, Chicago
Strutners-Wells Co, Warren, Pa
Tallerday Steel Pipe & Tank Co, Waterloo, Ia
Tippett & Wood, Phillipsburg, N J
U S Wind Engine & Pump Co, Batavia, Ill
Walsh, W J, Holyoke, Mass
Warren City Tank & Boiler Works, Warren, O
Wood, R D & Co, Philadelphia, Pa

Steam Shovels.
Austin, Mfg Co, Manhattan bldg, Chicago
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, South Milwaukee, Wis
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Marion Steam Shovel Co, Marion, O
Mead, John A, & Co, 7 Broadway, New York
Osgood Dredge Co, Albany, N Y
Souther, John, & Co, Boston, Mass
Thew Automatic Shovel Co, Lorain, O
Toledo Foundry & Machine Co, Toledo, O
Torbert & Peckham, Monadnock block, Chicago
Vulcan Iron Works Co, Toledo

Steam Specialties.
American District Steam Co, Lockport, N Y
Crane Co, Chicago, Ill
Darling Pump & Mfg Co, Box E, Williamsport, Pa
d'Esté, Julian, Co, 15 Canal st, Boston
Harrison Safety Boiler Wks, 3166 N 17th st, Phila
Lunkenheimer Co, Cincinnati, O
Manning, Maxwell & Moore, 85 Liberty st, New York
Robertson, Jas L, & Sons, 192 Fulton st, New York
Union Steam Spec. Co, 151 Franklin ave, Scranton, Pa
(see also Separators, Oil and Steam.)

Steam Traps.
American Blower Co, Detroit, Mich
Buffalo Forge Co, Buffalo, N Y
Crane Co, Chicago, Ill
d'Esté, Julian, Co, 15 Canal st, Boston
Sturtevant, B F, Co, Boston, Mass

Steel Clips.
Streeter, H A, 35 Indiana st, Chicago

Steel Flanges (Weldless).
Latrobe Steel Co, Girard bldg, Philadelphia

Steel Ties.
Koppel, Arthur, 68 Broad st, New York

Stone.
Bound Brook (N J) Crushed Stone Co
Leopold, J, & Co, 18 Broadway, New York
Thiel, August, Guttenberg, N J
Tomkins, Calvin, 120 Liberty st, New York

Street Cleaning Implements
Escoba Mfg & Supply Co, 147 Cedar st, New York

Street Railway Supplies.
Brill, J G, Co, Philadelphia, Pa

Street Sprinklers and Sweepers
Austin, F C, Mfg Co, Harvey, Ill
Brill, J G, Co, Philadelphia, Pa
Edson Mfg Co, 235 Atlantic ave, Boston
Good Roads Machinery Co, Kennett Square, Pa
Oastler W C, 156 Fifth ave, New York

Structural Steel and Iron Work.
Berlin Construction Co, Berlin, Conn
Brooks, T H, & Co, Cleveland, O
Eichleay, John, Jr, Co, Pittsburg
General Supply & Const'n Co, 8-10 Bridge st, N Y
Kratzer, W N, & Co, 3218 Smallman st, Pittsburg
Link Belt Engineering Co, Nicetown, Phila
McCarty, A F, & Co, 1215 Filbert st, Philadelphia
Means & Fulton Iron Works, Birmingham, Ala
National Skylight & Const'n Co, 120 Liberty st, N Y
N J Foundry & Machine Co, 9 Murray st, N Y
North Penn Iron Co, 3d and Sedgley ave, Phila
Pedrick, E K, Co, 120 Liberty st, New York
Schreiber, L, & Sons Co, Cincinnati, O
Sharon Boiler Works, Sharon, Pa
Snare & Triest, 39 Cortlandt st, New York
Snead & Co Iron Works, ft of Pine st, Jersey City, N J
Streeter, H A, 35 Indiana st, Chicago
Tippett & Wood, Phillipsburg, N J
Walton Iron Co, Cincinnati
(see also Bridges and Buildings.)

Stump Pulling Machine.
Milne Mfg Co, 894 Eighth st, Monmouth, Ill

Submarine Armor (see Diving Apparatus).

Tanks (Grain Storage).
Berquist, A S, 515 Bedford ave, Brooklyn, N Y
Hodge Boiler Works, East Boston, Mass
Riter-Conley Mfg Co, Pittsburg, Pa
Scaife, W B, & Sons, Pittsburg
Steel Storage Elevator & Const'n Co, Buffalo, N Y
Warren City Tank & Boiler Works, Warren, O
(see also Stand Pipes and Tanks.)

Tapes (Steel). See Measuring Tapes.

Tapping Machines (Pipe).
Smith, Anthony P, Mfg Co, Newark, N J

Tents.
Murray & Co, 329 S Canal st, Chicago

Test Borings (see Artesian Wells).

Testing Laboratories (see Laboratories).

Testing Machines.
Falkenau-Sinclair Machine Co, 100 N 22 st, Phila
Riehle Bros Test & Mach Co, 1434 N 9th st, Phila

Thermometers (Recording).
Bristol Co, Waterbury, Conn

Tie Plates.
Diamond State Steel Co, Wilmington, Del
Railroad Supply Co, Bedford bldg, Chicago

Ties
Koppel, Arthur, 68 Broad st, New York
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Time Detectors.
Am Watchmen's Time Detector Co, 234 B'way, N Y
Imhauser, E, & Co, 206 Broadway, New York

Tracing Cloth.
Aloe, A S, Co, 414 North Broadway, St Louis
Favor, Ruhl & Co, 54 Park Place, N Y
Hardtmuth, L & C, 49 Barclay st, New York
(see also Instruments, Engineering, etc.)

Transformers.
General Electric Co, Schenectady, N Y

Trench Machines.
Carson Trench Machine Co, Boston, Mass
Potter Mfg Co, 2010 N W ave Indianapolis, Ind

Tubing (Flexible Metallic).
Moore, Chas C, & Co, 32 First st, San Francisco

Turbines.
Camden Water-Wheel Wks, Camden, New York
Dayton Globe Iron Works Co, 7 Ludlow st, Dayton,
Leffel, Jas, & Co, Springfield, O
Poole, Robert, & Son Co, Baltimore, Md
Risdon-Alcott Turbine Co, Mt Holly, N J
Smith, S Morgan Co, York, Pa
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Wood, R D, & Co, Philadelphia, Pa

Turnbuckles.
Cleveland City Forge & Iron Co, Cleveland
Merrill Bros, 467 Kent ave, Brooklyn, N Y

Turntables.
American Bridge Co, New York
Boston Bridge Works, 47 Winter st, Boston, Mass
Chicago Bridge & Iron Co, Chicago
Columbia Bridge Co, Pittsburg
Fort Pitt Bridge Works, Pittsburg, Pa
Hunt, C W, Co, Richm'd Terrace, W N Brighton, N Y
King Bridge Co, Cleveland, O
Koppel, Arthur, 68 Broad st, New York
McClintic-Marshall Construction Co, Pottstown, Pa
Mo Valley Bridge & Iron Wks, Leavenworth, Kan
Mount Vernon Bridge Works, Mount Vernon, O
Passaic Rolling Mill Co, Paterson, N J
Philadelphia Bridge Works, Pottstown, Pa
Phoenix Bridge Co, 1321 Arch st, Philadelphia
Virginia Bridge & Iron Co, Roanoke, Va
Wonham-Magor Eng. Wks, 29 Broadway, New York

Valve Boxes.
Cayuta Wheel & Foundry Co, Sayre, Pa
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Drummond, M J, & Co, 192 Broadway, N Y

Valves.
Crane Co, Chicago, Ill
Crosby Steam Gage & Valve Co, Boston
Darling Pump & Mfg Co, Box E, Williamsport, Pa
(see also Hydrants and Valves.)

Valves (Gas).
Campbell, J B, Brass Works, Cascade st, Erie, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Crane Co, Chicago, Ill
Ludlow Valve Mfg Co, Troy, N Y
Michigan Brass & Iron Works, Detroit, Mich
Roots, P H & F M, Co, Cornersville, Ind

Valves (Gate).
Cayuta Wheel & Foundry Co, Sayre, Pa
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y
Crane Co, Chicago, Ill
Millar, Chas, & Son Co, Utica, N Y
Walworth Mfg Co, Boston, Mass
Wood, R D, & Co, Philadelphia, Pa

Valves (Pressure Regulating).
Ross Valve Co, Troy, N Y
(see also Pressure Regulators.)

Valves (Steam).
Cayuta Wheel & Foundry Co, Sayre, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Crane Co, Chicago, Ill
Crosby Steam Gage & Valve Co, Boston
Ludlow Valve Mfg Co, Troy, N Y
Lukenheimer Co, Cincinnati, O

Valves (Stop).
Foster Engineering Co, Newark, N J
Reading Foundry Co, Ltd, Reading, Pa
Thompson, J, & Co, Philadelphia

Varnish and Colors.
Sherwin-Williams Co, Cleveland, O
(see also Paints.)

Vault Lights.
Brooks, T H, Cleveland, Ohio
Tucker & Vinton, 156 Fifth ave, New York

Ventilators.
Buffalo Forge Co, Buffalo, N Y
Merchant & Co, Inc, Philadelphia, Pa

Vises (Parallel).
Merrill Bros, 467 Kent ave, Brooklyn

Wagons and Carts.
Austin, F C, Mfg Co, Harvey, Ill
Climax Road Machine Co, Marathon, N Y
Columbia Wagon Co., Columbia, Pa.
Good Roads Machinery Co, Kennett Square, Pa
Port Huron Engine Co, Port Huron, Mich
U S Sanitary Co, Washington, D C
Watson Wagon Co, Canastota, N Y
Western Wheeled Scraper Co, Aurora, Ill

Water Motors.
Backus Water Motor Co, Newark, N J

Water Softening Plants.
Industrial Water Co, 126 Liberty st, New York
Kennicott Water Softener Co, 3583 Butler st, Chicago
N Y Continental Jewell Filtration Co, 15 Broad st, NY
Patterson, S W, Philadelphia, Pa
Pittsburg Filter Mfg Co, Pittsburg

Water Storage Systems.
Acme Water Stor & Const'n Co, Park Row bldg, N Y

Water Wheel Governors.
(see Governors, Water-Wheel.)

Water Wheels.
Cassel Auto Water Motor Co, Seattle, Wash
Doble, Abner, Co, Fremont & Howard, San Francisco
Pelton Water Wheel Co, 134 Main st, San Francisco
(see also Turbines.)

Water-Works Tools and Supplies.
Flint & Walling Mfg Co, Kendallville, Ind
Smith, A P, Mfg Co. Newark, N J

Well Drilling Machinery.
American Well Works, Aurora, Ill
Cook Well Co, St Louis, Mo
Star Drilling Machine Co, 104 Fulton st, New York

Wharf and Pier Builders.
Atlantic, Gulf & Pacific Co, 13-21 Park Row, N Y
McMullen, Arthur, & Co, 13-21 Park Row, New York
O'Rourke, John F, Park Row bldg, N Y
Phoenix Bridge Co, Phoenixville, Pa
San Francisco Bridge Co, 220 Market st, San Francisco

Wheelbarrows.
Cockburn Barrow & Machine Co, Jersey City, N J
Syracuse Chilled Plow Co, Syracuse, N Y
Steubner, G L, Long Island City, N Y
Western Wheeled Scraper Co, Aurora, Ill

Whistles.
Crosby Steam Gage & Valve Co, Boston
Lunkenheimer Co, Cincinnati, O

Windmills.
Flint & Walling Mfg Co, Kendallville, Ind
Temple Pump Co, 13th Place, Chicago
U S Wind Engine & Pump Co, Batavia, Ill

Wire, Wire Rope and Cables.
American Steel & Wire Co, New York & Chicago
Broderick & Bascom Rope Co, St Louis
Leschen, A, & Sons Rope Co, St Louis
Macomber & Whyte Rope Co, 21 S Canal st, Chicago
Roebling's, John A, Sons Co, Trenton, N J
Trenton Iron Co, Trenton, N J
Williamsport Wire Rope Co, Williamsport, Pa

Wire Drawing Machinery.
Turner, Vaughn & Taylor, Cuyahoga Falls, Ohio

Wire Fence (see Fencing).

Wood Preserving (see Creosoting).

Wrenches.
Keystone Drop Forge Wks, 20th & Clearfield sts, Phila

Flexible Joints

For Water Pipes, Gas, Oil Compressed Air, Etc.

Strongest, Cheapest, Easiest to Use. Contracts Taken for Submerged Pipe-Laying

CORRESPONDENCE SOLICITED.

A. L. HOLMES, - - Grand Rapids, Mich.

FOR INFORMATION ABOUT

U. S. Mail Chutes

WHICH ARE

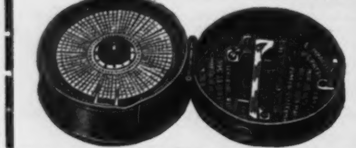
A Necessity in Office Buildings and Hotels.

Write to the Sole Makers.

THE CUTLER MFG. CO., ROCHESTER, N. Y.
Patented. Authorized.

Imhauser's Watchman's **TIME DETECTORS**

THAT CANNOT FAIL. Write for Catalogue.



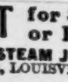
Made with 12 or 24 different keys. Contain all the modern improvements. Warranted in every way. Cannot be tampered with without detection.

E. IMHAUSER & CO., 206 Broadway, N. Y.
Highest Award Pan-American Exposition.

MORAN FLEXIBLE JOINT for Steam, Air or Liquids

Made in all Sizes, to stand any desired Pressure

MORAN FLEXIBLE STEAM JOINT CO., Inc.
145 Third Street, LOUISVILLE, KY.



High-Grade Fire Brick

A good article is worth its price. Our No. 1 *are* No. 1. If price is of primary importance, try our Royal brand—but don't forget that either require good quality fire-clay to lay same.

HENRY MAURER & SON, 422 East 23d St., New York City

ALPHABETICAL LIST OF ADVERTISERS.

Advertiser	Page
Abbot-Gamble Contracting Co.	37
Abendroth & Root Mfg Co.	—
Aberthaw Construction Co.	53
Acme Road Machinery Co.	51
Acme Water Stor & Const'n Co	37
Adams, H. S.	2
Ainsworth, Wm., & Sons	21
Albree, Chester B.	5
Alberger Condenser Co.	11
Aldrich, Wm S.	2
Alexander Iron Works	40
Allen, John F.	—
Allis-Chalmers Co.	11, 22
Aloe, A S, Co.	20
Alpha Portland Cement Co.	48
Alsen's Portland Cement	48, 60
Alteneder, Theo. & Sons	20
Alton Route	55
Alvord, John W	3
American Air Compressor Wks	18
American Blower Co.	7
American Bridge Co.	54
American Cement Co.	60
American Creosote Works	53
Am Diamond Rock Drill Co.	18
Am. District Steam Co.	—
American Gas Furnace Co.	6
American Hoist & Derrick Co.	41
American Locomotive Co.	58
American Pipe Mfg Co.	37
American Process Co.	49
American Sewer Pipe Co.	35
American Sheet Steel Co.	1
Am School of Correspondence	—
American Spiral Pipe Works	17
American Steel & Wire Co.	45
American Vitrified Conduit Co	33
Am. Watchman's Detector Co.	21
American Well Works	12
Apex Equipment Co.	28, 56
Archbald, James	8
Architects & Engrs' Supply Co	20
Arnold, B. J	3
Art Metal Construction Co.	21
Art Metropole Co.	21
Ashcroft Mfg Co.	1
Associated Engineering Co (NY)	2
Associated Eng Co (Pittsburg)	3
Assoc. Eng Societies	22
Assoc. Expanded Metal Cos.	30
Atha, Benj, & Co	56
Atlantic Creo. & Wood Pres Co	53
Atlantic, Gulf & Pacific Co.	16
Atlas Portland Cement Co.	60
Aultman Co.	41
Austin, F C, Mfg Co.	50
Babcock & Wilcox Co.	8
Backus Water Motor Co.	7
Bacon Air Lift Co.	16
Bacon, Earle C.	51
Baffrey R.	—
Baker, Jas H, Mfg Co	32
Baldwin Locomotive Works	58
Baldwinsville Cent'l Pump Wks	11
Balkwill Pattern Works	1
Ball Bearing Co.	5
Ballantyne & Evans	2
Baltimore Bridge Co	52
Barr, J Carroll	3
Bartlett, C O, & Snow Co.	12
Bates & Rogers Const'n Co.	—
Beach, Henry T.	2
Beatty, M, & Sons	45
Beckmann, L.	20
Bellefontaine Bridge & Iron Co	52
Belmont Iron Works	28, 55
Belsley, Clay	3
Berger, C L, & Sons	20
Berger Mfg Co.	34
Berlin Construction Co.	52
Berquist, A S.	—
Big Four Route	21
Bird, J A & W, & Co.	53
Blackmer & Post Pipe Co.	1
Blake, Geo F, Mfg Co	11
Blanton, E A, Jr.	49
Bond, Harold L, & Co	36
Bontecou, Daniel	4
Bonnot Co.	50
Bonzano Rail Joint Co.	57
Boorman, T Hugh	48
Booth, Garrett & Blair	3
Boston Blower Co.	7
Boston Bridge Works	52
Boston Engineering Agency	24
Boston & Lockport Block Co.	37
Boston & Maine R R.	9
Bound Brook Crush. Stone Co	48
Bourbon-Copper & Brass W'rks	13
Bowers, A B.	46
Bowman, A L.	2
Braden, Jas A	26
Bradley Pulverizer Co.	—
Briggs, Marvin	26
Brill, Geo M.	3
Brill, J G, Co.	57
Bristol Co, The	60
Broderick & Bascom Rope Co	45
Bromley, A H, Jr	34
Brooks, T H, & Co	38
Brooks Locomotive Works	58
Broomell, Schmidt & Steacy Co	—
Brotherhood Steam Shovel Eng	24
Brown Hoisting Machinery Co	44
Brownell & Co.	7
Bryan, W H.	3
Buckeye Portland Cement Co	48
Buckley, F L.	2
Bucyrus Co.	47
Buff & Buff	21
Buffalo Forge Co.	6
Buffalo Meter Co.	16
Buffalo Pitts Steam Roller Wks	39
Builders Iron Foundry	16, 30
Burrows Bros Co	21
Burt Mfg Co.	7
Butler, A G.	56
Byers, John F, Machine Co	40
Caird, James M.	2
Caldwell, W E, Co.	13
Caldwell, H W, & Son Co.	43
California Redwood Pipe Co.	17
C & C Electric Co.	32
Cameron, A S, Stm Pump Wks	11
Cameron Septic Tank Co.	37
Camp, H B, Co	33
Campbell, J B, Brass Works	14
Carbolineum Wood Presv'g Co.	53
Carlin, W J, Co	26
Carlin Machinery & Supply Co	36
Carroll-Porter Boil & Tank Co.	—
Carson Trench Machine Co.	60
Case Mfg Co.	39
Case School of Applied Science	4
Cassel Auto Water Motor Co.	8
Cayuta Wheel & Foundry Co.	14
Champion Bridge Co.	53
Chapman Valve Mfg Co.	16
Chase, Chas F.	2
Chase Machine Co	46
Chibas, Eduardo J	2
Chicago Great Western Ry.	55
Chicago Bridge & Iron Co	21
Chicago House Wrecking Co.	26
Chicago Pneumatic Tool Co.	18
Chicago Steel Safe Co.	20
Chicago Telephone Co	27
Chilton Paint Co.	34
Christensen, N A	18
Church, Isaac	38
City Wastes Disposal Co.	2
Clark, J C	50
Clarkson School of Technology	4
Clayton Air Compressor Works	11
Cleaver Bros.	2
Cleveland City Forge & Iron Co	30
Cleveland Engineering Agency	24
Cleveland Pneumatic Tool Co.	4
Climax Road Machine Co.	51
Clinton Bridge & Iron Co.	—
Clow, J B, & Sons	17
Clyde Iron Works	39
Cockburn Barrow & Mach Co.	34
Coffin Valve Co	14
Coho Electric Co	38
Colby, J A	8
Coldwell-Wilcox Co.	16
Cole, H, Co	20
Cole, John A.	3
Cole Bros.	37
Columbia Bridge Co	54
Columbia Machine Works	5
Columbia Wagon Co.	56
Columbiana Boiler Co	12
Columbus Pneumatic Tool Co.	7
Conlan, P H, & J	37
Consol'd Rosendale Cement Co	60
Consolidated Safety Valve Co.	1
Continuous Rail Joint Co.	57
Contractors' Plant Co. Boston	38
Contractors' Plant Mfg Co	40
Contractors' Supply Co.	27
Cook Well Co.	9
Cooke Locomotive Works	58
Cooper, Theodore	2
Coplay Cement Co	60
Copp-Clark Co, Ltd	20
Cornell & Co	27
Crandall & Son Co, H I.	37
Crane, A M, Co	—
Crane Co	34
Cresson, Geo V, Co.	51
Crocker, H S, Co.	21
Croes, J J R.	2
Crosby Steam Gage & Valve Co	30
Crown Dryer Co	49
Cumberland Hyd Cement Co.	49
Cummer, F D, & Son Co.	49
Custodis, A, Chim Const'n Co.	13
Cutler Mfg Co.	21
Darling Pump & Mfg Co.	14
Dartmouth College	4
d'Auria Pumping Engine Co.	10
Davidson, M T.	11
Davis-Calyx Drill Co.	18
Davis E R.	2
Dayton Globe Iron Works	7
Dean Bros Steam Pump Works	11
Deane St'm P'mp Co, Holyoke	11
Deming Co.	12
d'Este, Julian, Co	15
Detroit Graphite Mfg Co.	30
Detroit Leather Specialty Co.	—
Deutsch W M.	60
Devoe, F W, & Raynolds, C T, Co	20
Diamond State Steel Co	55
Dickey, W S, Clay Mfg Co.	1
Dickson Locomotive Works	58
Dietzgen, Eugene, Co	21
Dimmick, J K, & Co	17
Dimmick Pipe Co	17
Dixon, Jos, Crucible Co.	4
Dobbie Foundry & Mach Co.	38
Doble Co, Abner	—
Doble, Robt McF	3
Dodge Mfg Co.	5
Dolan, Thos J	24
Donaldson Iron Co.	17
Donaldson & Newton	28
Downie Pump Co.	12
Drake Standard Mach Works	38
Dredging & Filling Co	46
Dressel Ry Lamp Works	—
Drummond, M J, & Co.	17, 30
Du Bois Iron Works	13
Duenkel, Chas L.	2
Duff Mfg Co.	55
Dunham, H F.	2
Dunn Mfg Co, Ltd	36
Eastern Construction Co.	37
Easton Fdry & Mach Co.	32
Edson Mfg Co	27
Edwards, Joseph, & Co	10
Egleston, Howard	2
Egyptian Silica Brick Co	48
Eichleay, John, Jr	53
Electric Fireproofing Co.	—
Electric Storage Battery Co	30
Ellicott Machine Works	46
Elliot Frog & Switch Co	57
Elliott Elec Blue Print Co	21
Empire Portland Cement Co.	48
Engineering Co. of America	36
Engineers' Inst Exchange	24
Engin'r'g Employment Bureau	24
Enterprise Boiler Co.	—
Epping-Carpenter Co.	10
Eppinger & Russell Co.	56
Ericson & Lehmann	3
Erie Pump & Engine Co.	12
Erie Machine Shops	39
Escoba Mfg & Supply Co	—
Eason, W A, & Co.	37
Evans, F H	34
Evans, Geo E.	2
Evens & Howard Fire Brick Co	1
Everson, E W, & Co.	26
Exeter Machine Works	45
Expanded Metal Fireproofing.	30
Fairbanks Morse & Co.	30
Fairchild & Gilchrist	3
Falcon, Jos G	31
Falkenau-Sinclair Machine Co	14
Fanning, J T	3
Farrington, Harvey	2
Farrel Foundry & Machine Co.	5
Favor, Ruhl & Co.	21
Featherston Fdry & Mach Co.	46
Field, Wm P.	2
Fisher A J	—
Fisher & Saxton Co.	38
Fitz-Hugh Co.	24
Flint & Walling Mfg Co.	13
Flintoff Wm.	—
Flory, S, Mfg Co.	42
For Sale Cards	26-29
Fort Pitt Bridge Works	54
Foster Engineering Co.	14
Foundation & Contracting Co.	27
Fowler, C E	3
Fox, John, & Co.	17
French, Samuel H, Co.	48
Fuertes, James H.	2
Fuller, Frank L.	2
Fuller, George	—
Fuller, Geo W.	2
Garland, M, Co	43
Garry Iron & Steel Co.	54
Gas Machinery Co.	7
Gem City Boiler Co.	9
General Electric Company	6
General Supply & Const'n Co.	1
Gest, G M	37
Gilbreth, Frank B.	37
Gillespie, T A, Co.	31
Girard Boiler & Mfg Co.	18
Glens Falls Port Cement Co.	48
Goneen Mfg Co.	33
Good Roads Machinery Co.	51
Gould, E Sherman	2
Goulds Mfg Co.	10
Graham, John W, & Co.	20
Grant & Harper Machinery Co	27
Graton & Knight Mfg Co.	30
Gray-Blaisdell Co	18
Gray, Samuel M.	2
Green Fuel Economizer Co.	—
Guild & Garrison	—
Gurley, W & L E.	20
Hammel, C A	—
Hancock Inspirator Co.	1
Hapgood Bureau	24
Hardtmuth, L & C	20, 21
Harrington & King	42
Harrisburg Foundry & Mach Co	39
Harrison Safety Boiler Wks	31
Hartford Stm Boiler Insp & Ins Co	10
Hartranft, Wm G, Cement Co	60
Harvard University	4
Hatton, T Chalkley	3
Havana Bridge Works	5
Hawes, L E.	2
Hayden & Derby Mfg Co.	1
Hays, John W	3
Hayward Co.	47
Hazen Allen	2
Healey P J, & Co.	—
Heath, E L	2
Heath & Milligan Mfg Co	30
Hein Furniture Co.	—
Heisler Pumping Engine Co	10
Helderburg Cement Co.	49
Heller & Brightly	21
Helwig Mfg Co	5
Hennebique Patents	—
Henning, Gus C.	2
Hering, Rudolph	2
Hersey Mfg Co.	16
Hetterschied Mfg Co.	21
Heyl & Patterson	43
Hildenbrand, W	—
Hildreth & Co.	2
Hill, Wm R.	2
Hill Machine Co	10
Hodge Boiler Works	13
Hollenback, M M.	3
Hollingsworth, L, Jr	3
Holmes, A L.	23
Hook, F E.	—
Huber, S V & Co.	3
Hunkin Bros	26
Hunt, C W, Co	43
Hunt, Robert W, & Co.	8
Hyde Bros & Co.	28
Illinois Central R R.	12
Illinois Mfg Co.	1
Illinois Steel Co.	60
Imhauser, E, Co.	—
Industrial Water Co.	8
Industrial Works	41
Ingersoll-Sergeant Drill Co.	19
Ingoldsby Automatic Car Co.	21, 56
Intern'l Acheson Graphite Co	31
International Cor Schools	—
Internatl Creos & Constn Co.	53
Iola Portland Cement Co.	31
Iowa Engineering Co.	3
Iowa State College	4
Iroquois Iron Works	36
Italo-American Trust Co.	25
Jackson Filter Mfg Co	60
Jackson, John H.	—
Jeffrey Mfg Co.	43
Joliet Bridge & Iron Co.	52
Johnson, Charles F.	28
Johnson, Wallace C.	2
Johnsonburg Vit Brick Co.	48
Johnston, Robt	20
Jones National Fence Co.	55
Kaltenbach & Griess	42
Keeler, E, Co.	12
Kelley Isl'd Lime & Trans Co	1
Kelly, O S, Co.	37
Kelly-Springfield R'd Roller Co	39
Kelsey, D J	—
Kelsey, F C	3
Kennedy, Julian	3
Kennedy Valve Mfg Co.	14
Kennedy, Walter	3
Kennicott Water Softener Co	8, 20
Kenwood Bridge Co.	52
Kent Mill Co.	1
Kent, Wm	2
Keuffel & Esser Co	21
Keystone Drop Forge Works	32
Kiersted, Wynkoop	3
King Bridge Co	32
King, Guy	18
Kingsford F'dry & Mach Wks	10
Kinnear Mfg Co.	30
Kirk, Arthur, & Son Co	38
Kitson Hydro-Carbon L'htg Co	58
Knight, F C, & Co.	—
Knight & Hopkins	2
Knight Mfg Co.	—
Knowles Steam Pump Works	11
Kolesch & Co.	21
Koppel, Arthur	38
Kratzer, W N, & Co	53
Lackawanna R R.	17
Lafayette College	4
Laidlaw-Dunn-Gordon Co.	11
Lake City Engineering Co.	10
Lamb Wire Fence Co.	34
Lambert Hoisting Engine Co	40
Lethbury & Spackman	3
Latrobe Steel Co.	7
Lawrence Cement Co	60
Lawrence Machine Co.	11
Ledder, G G	20
Leffel, Jas, & Co.	9
Lehigh Portland Cement Co	1
Lehigh University	4
Leopold, J, & Co.	48
Leschen, A, & Sons Rope Co	44
Lewis, Harry J	3
Lewis Institute	4
Lidgerwood Mfg Co.	55
Lietz, A, Co	21
Link Belt Engineering Co	43
Little, W W	3
Lockwood J R C	8
Loetzer Valve & Mfg Co	14
Lombard Governor Co.	—
Loomis-Manning Filter Co.	1
Low, Edgar S, Co.	27
Lowe Wrecking & Diving Co.	37
Lucius, Albert	2
Ludlow Valve Mfg Co.	14
Ludlow, J L.	3
Lufkin Rule Co.	20
Lunkenheimer Co.	9
Luther, J P, Glove Co.	—
Mack Mfg Co.	48
Mackey Co.	20
Maclay, W W	2
Macleod, Walter, & Co.	—
Macomber & Whyte Rope Co.	—
Maignen Filtration Co.	9
Mahan, F A	2
Mahn & Co.	20
Main Belting Co.	49
Males Co.	28
Manchester Locomotive Works	58
Manning, Maxwell & Moore	1
Marion Steam Shovel Co.	47
Marine Engine & Machine Co.	1
Mashek, G J.	2
Mason, W P.	2
Massachusetts Fan Co.	7
Mass Institute of Technology	4
Massillon Bridge Co.	52
Massillon Iron & Steel Co.	17
Maurer, Henry, & Son	—
Maury, Dabney H.	3
May & Spalding	—
Mayer, Joseph	2
McAvoy Vitrified Brick Co.	48
McCabe, J F.	37
McCartny, P A.	3
McClintic-Marshall Constr'n Co	52
McConway & Torley Co.	56
McCord & Co.	9
McCormack, Edgar W.	2
McGill University	4
McGowan, John H, Co.	12
McKee & Beers	37
McKelvey Concrete Mach'y Co	39
McKenna, Charles F.	31
McKiernan Drill Co.	19
McLean, John	16
McMullen, Arthur, & Co.	37
McNeil, James, & Bro	12
Meacham & Wright	49
Mead, John A, Mfg Co.	43
Means & Fulton Iron Works	13
Mechanical Mfg Co.	55
Meehan Boiler & Const'n Co.	12
Merchant & Co	—
Meredith, J P.	26
Merrill Bros.	30
Metropolitan Fireproofing Co.	—
Michigan College of Mines	4
Michigan Paint Co.	33
Mietz & Weiss	6
Millar, Chas, & Son Co.	31
Milne Mfg Co	—
Milwaukee Cement Co.	49
Missouri School of Mines	4
Mo Valley Bridge & Iron Wks.	53
Modjeski, Ralph	3
Monighan's Machine Works	41
Monmouth Mining & Mfg Co.	1
Moore, Chas C, & Co.	4
Moran Flex Steam Joint Co.	—
Morris Machine Works	11
Morse A J, & Son	37
Morse-Boulger Destructor Co.	37
Morse Elevator Works	—
Mount Vernon Bridge Co.	52
Multiscope & Film Co.	25
Mundy, J S.	42
Municipal Eng & Contract Co.	39
Murray & Co.	32
National Contracting Co	27
National Correspondence Inst	25
National Drill & Mfg Co.	36
National Elastic Nut Co	26
National Fireproofing Co.	1
National Paint Works	1
National Skylight & Const'n Co	54
National Tube Co.	14
Neptune Meter Co.	16
Newell Mfg Co.	49
Newman, Wm A.	3
New Castle Bridge Co	53
New England Structural Co.	52
New Era Iron Works	6
N J Foundry & Machine Co.	43
New Orleans Wood Pres Wks.	53
New York Central R R Co.	—
N Y Cont'l Jewell Filtration Co	60
New York Dredging Co.	46
N Y Engineering Agency	24
New York Pottery Co.	32
N Y Rail Insulation & Equip Co	57
N Y Switch & Crossing Co	57
N Y Univ School of App Science	4
Niles Tool Works Co.	41
Noble, T A	3
Norfolk Creosoting Co.	53
North American Metaline Co.	24
North Penn Iron Co.	40
Norton, A O	55
Norwalk Iron Works Co.	18
Norwich University	4
Norwood Engineering Co	14
Ogden, J Edward, Co	16
O'Rourke, John F	37
Osgood Dredge Co.	46
Ostrom John N	3
Otis Elevator Co.	1
Otto Gas Engine Works	6, 7
Owen, James	2
Pacific Flush Tank Co	32
Palmer, Noyes F.	39
Palmer, W K	3
Parker, Thatcher A.	54
Parson Mfg Co.	9
Passaic Rolling Mill Co	52
Patterson, D W	6
Patton, J R, & Co	—
Pawling & Harnischfeger	40
Pease Car & Locom. Works	36, 28
Pedrick, E K, Co	54
Peerless Portland Cement Co.	49
Pels & Co, Henry	—
Pelton Water Wheel Co.	8
Penn Bridge Co.	54
Penn Correspondence School	24
Penna. Military College	4
Pennsylvania State College	4
Pennsylvania Steel Co.	52
Permanent Mfg Co.	36
Petroleum Iron Works Co.	12
Pfeifer, H J	8
Pfister, Herm.	20
Phelps Bros & Co.	24
Philadelphia Bridge Works	58
Philadelphia Bourse	5
Phila. Commercial Museum	—
Phila. Pneumatic Tool Co	7
Philippine Eng & Const'n Co.	37
Phillips, Richard H.	3
Phillips & Worthington	37
Phoenix Bridge Co.	53
Pierson, Geo S.	3
Pittsburg Blue Print Co.	—
Pittsburg Filter Mfg Co	60
Pittsburg Locomo & Car Wks	58
Pittsburg Meter Co.	16
Pittsburg Pipe & Iron Co.	27
Pittsburg Reduction Co.	31
Pittsburg Test Laboratory, Ltd	
Plenty, Josephus	54
Pneumatic Engineering Co.	1
Pneumatic Signal Co.	31
Polytechnic Institute	4
Poole, Robt, & Son Co.	6
Porter, H K, Co.	58
Pt Huron Engine Co	42
Post, Frederick, Co.	20
Potter, Alexander	2
Potter Mfg Co.	36
Power Installation Co.	2
Pratt Institute	4
Pray, Thos, Jr.	2
Pressed Steel Car Co.	57
Prince, L M.	20, 21
Proposals...Supplement and	31, 32
Pulsometer Steam Pump Co.	12
Purington Paving Brick Co.	48
Putman, H J, & Co	—
Queen & Co.	21
Quigley, R M, & Co	37
Quimby, Wm E.	10
Quinton, Olmsted & Sanders	8
Railroad Supply Co.	58
Ramapo Iron Works	57
Rand Drill Co.	19
Rankin & Hengst	3
Ransome & Smith Co	30
Ransome Concrete Machy Co.	39
Rawson & Morrison Mfg Co.	42
Raymond, W G.	2
Reading Foundry Co.	17
Rensselaer Polytechnic Inst.	4
Replogle Governor Works	7
Rhode Island Locomotive Wks	58
Rice, Geo S.	2
Richardson Scale Co	30
Richmond Locomotive Works	58
Richmond Supply Co.	53
Ricketts, Palmer C.	2
Riehle Bros Test & Mach Co.	14
Rinald Bros	1
Risdon-Alcott Turbine Co.	9
Riter-Conley Mfg Co.	13
Robertson, Jas L, & Sons	24
Robins Conveying Belt Co.	41
Robinson, A W.	2
Robinson Clay Product Co.	36
Robinson & Orr	28
Roebling Construction Co.	30
Roebling, John A, Sons Co	44
Rogers, John M, Drill Works	19
Rogers Iron Co.	55
Rogers, W S.	24
Rondinella, L F.	8
Roots, P H & F M, Co.	10, 26
Rose Polytechnic Institute	4
Rosewater, Andrew	3
Ross Valve Co	15
Ross & Holgate	2
Ruggles-Coles Engineering Co	49
Rushmore Dynamo Works	—
Russell, S Bent	3
Saegmuller, G N.	21
Safety Car H'ting & L'ghting Co	58
Sala, J C	—
San Francisco Bridge Co.	53
Saunders', D, Sons	14
Saxton, J C	27
Sayen & Schultz	9
Scaife, Wm B, & Sons Co	12
Schenectady Locomotive Wks.	58
Scherzer Rolling Lift Bridge Co	53
Schieren, Chas A, & Co	9
Scholl, Julian, & Co.	39, 51
School of Structural Drafting	24
Schrader's Son, A.	37
Schreiber, L, & Sons Co.	52
Schwencke, Kirk & Co.	—
Scientific Exchange	24
Scott, G W	3
Sessions Foundry Co.	37
Shankland, E C & R M.	3
Shannon, J Jacob, & Co.	—
Sharon Boiler Works	13
Shoemaker, Louis F, & Co.	52
Shedd & Sarle	2
Sherwin-Williams Co.	33
Sicilian Asphalt Paving Co.	48
Sinclair & Babson	48
Slocomb, F F, & Co.	6
Smidth, F L, & Co.	49
Smith, Anthony P, Mfg Co.	17
Smith Co, Blackburn	39
Smith, S Morgan, Co	7
Smith, Theo, & Sons Co	47
Smith, T L.	38
Smith, W B.	30
Smith & Sons Mfg Co.	36
Smith-Siemens Garb. Furnace	37
Snare & Triest	37
Snead & Co. Iron Works	—
Snow, T W.	13
Snow Steam Pump Works	11
Snow & Barbour	2
Snyder, Hiram, & Co	60
Soltmann, E G	21
Somerville Engineering Co.	2
Sooysmith, Charles	2
Soper, Geo A.	2
Souther, Jno, & Co.	47
Southwark Fdry & Machine Co	9
Southern Creosoting Co	44
Spaulding Print Paper Co.	—
Spon & Chamberlain	31
Springfield Gas Engine Co.	6
Stackpole & Brother	21
Standard Bridge Co.	52
Standard Paint Co.	30
Standard Roller Bearing Co	5
Standard Steel Car Co.	56
Standard Vitrified Conduit Co	33
Standard Water Meter Co.	16
Stanley, W F, & Co.	20
Star Drilling Machine Co.	12
Starrett, L S, Co.	20
Steel Cable Engineering Co.	43
Steel Protected Concrete Co.	—
Steel Storage & Elevator Construction Co.	57
Steele & Condict	51
Sterrett Pump Co.	9
Steubner Iron Works	40
Steward & Romaine Mfg Co.	38
Stieren, Wm E, Co	21
Stilwell-Bierce & Smith-V. Co.	12
St Louis Exp Metal Firepfg Co.	38
St Louis Portland Cement Co	49
Stone Wm G, & Co.	2
Stoddard, Geo C.	2
Stothoff Bros	—
Stow Flexible Shaft Co.	5
Stow Mfg Co.	4
Stowell & Cunningham	2
Straley, Hasbrouck & Schloeder	31
Streeter, H A.	22
Strobel, C L.	52
Struthers-Wells Co.	6
Stuebner, G L.	40
Stupp Bros Bridge & Iron Co.	52
Sturtevant, B F, Co.	7
Sturtevant Mill Co.	51
Sullivan Machinery Co.	19
Swensson, Emil	3
Swinburne & Clark	2
Syracuse Chilled Plow Co.	36
Syracuse Stoneware Co.	36
Syracuse University	4
Tallerday Steel Pipe & Tank Co	17
Tallon, C J	28
Tate, Jones & Co	30
Taylor Iron & Steel Co.	50
Temple Pump Co	6
Thew Automatic Shovel Co.	6
Thiel, August	48
Thomson Meter Co.	16
Thomson, T Kennard	2
Thompson, J, & Co.	15
Thorn Cement Co.	49
Throop, A T, & Co.	2
Tight Joint Co.	9
Tippett & Wood	11
Toch Bros.	33
Toledo Foundry & Machine Co.	45
Tomkins, Calvin	26
Toomey, Frank	28
Torbert & Peckham	—
Trautwine, John C.	—
Treadwell, M H, & Co.	—
Trenton Iron Co.	45
Tribus & Massa	2
Troy Public Works Co	27
Truss Metal Lath Co.	34
Tucker & Vinton	—
Tufts College	4
Turner, C A P.	3
Turner, Vaughn & Taylor Co.	5
Tyrone Foundry & Mach Co.	51
Ulmer, J C & Co.	20
Union Akron Cement Co.	49
Union Hydraulic Works	16
Union Iron Works	13
Union Steam Specialty Co.	9
Union Water Meter Co.	16
United Engineering & Con Co.	52
United Telpherage Co.	15
Universal Drafting Mach Co.	—
University of Illinois	4
University of Maine	4
University of Michigan	4
University of Pennsylvania	4
University of Vermont	4
University of Wisconsin	4
U S Cast Iron Pipe & Fdry Co.	17
U S Fireproofing Corp.	34
U S Mineral Wool Co.	1
U S Sanitary Co.	—
U S Wind Engine & Pump Co.	—
Utica Pipe Foundry Co.	31
Vaile & Young	54
Vance Boiler Works	24
Vanderbilt & Hopkins	26
Vandyck, J R, Co.	30
Van Nostrand, D, Co.	—
Van Wie, Irwin	11
Variety Iron Works Co.	53
Virginia Bridge & Iron Co.	52
Vulcan Ir. Wks, (Chicago)	46
Vulcan Ir. Works Co (Toledo)	47
Vulcan Ir. Wks, (Wilkesbarre)	58
Vulcanite Portland Cement Co	60
Wabash Bridge & Iron Works	59
Waddell & Hedrick	8
Wadsworth, Howland & Co.	21
Walsh's Holyoke Boiler Works	—
Walton Iron Co.	58
Walworth Mfg Co.	30
Want Cards	24, 25
Waring, Chapman & Farquhar	2
Warner, Chas, Co.	48
Warren Bros Co	1
Warren-Burnham Co	27
Warren City Tank & Boiler Wks	13
Warren Fdry & Machine Co.	17
Washington University	4
Wason, L C	2
Watertown Engine Co.	—
Watkins, Thos.	—
Watson, Benjamin	2
Watson, Geo E, Co	20
Watson-Stillman Co.	55
Watson Wagon Co	8
Webb, Walter Loring	3
Weber, F, & Co.	21
Weber Ry Joint Mfg Co	55
Wedelstaedt, Henry E. Co	20
Weigele Riveted Steel Pipe Wks	17
Weil, J H.	2
Weir Frog Co.	5
Wellman-Seaver Morgan Eng Co	7
Wells Light Mfg Co	56
Western Brick Co.	48
Western Cement Co	60
Western University of Penna.	4
Western Wheeled Scraper Co.	32
Westinghouse Air Brake Co.	39
Westinghouse Elec & Mfg Co.	39
Weston Bros	3
Weston, Edmund B	2
West Pascagoula Creosote Wks	53
West Pulverizing Machine Co.	51
Wheeler, W H & Co.	3
Whipple, Geo C	2
White, Wm Henry	3
Whitehall Portland Cement Co	49
Whitney O R	26
Wight, W N, & Co	36
Wiley, John, & Sons	51
Wilkins, Wm G	3
Williams, Brown & Earle	21
Williams & Whitman	2
Williamsport Wire Rope Co.	36
Wilson, J G	21
Wilson Brothers & Co.	4
Wisconsin Graphite Co	35
Wise & Watson	2
Wittstock P & R	30
Wonham-Magor Eng Co	28, 56
Wood, P K	10
Wood, R D, & Co.	20, 6
Wood Drill Works	19
Worcester Polytechnic Institute	4
Worthington, Henry R.	11
Wyckoff Pipe & Creosoting Co	53
Wyllie, H D	51
Yale & Towne Mfg Co.	32
Yale University	5
Young & Sons	21
Young, O H, & Co.	21
Young, E R, & Sons	25
Youngstown Ir & St'l Roof'g Co	34

Supplemen

PERSONALS
Obituary
ENGINEERIN
Coming M
CONSTRUCTI
Condensed
Railways
Street and
Light, Hea
Bridges
Buildings
Water Sup
Sewerage
Garbage D
Streets an
Manufactu
Miscellane
U. S. Poss
Foreign C
Contract
INDUSTRIAL
New Com
PUBLICATIO
Trade Pub
PROPOSALS
ADVERTISE

Mr. Ezra B
Tacoma, Was

Mr. J. Carr
Middletown,

Mr. E. G. S
Co., 45 Broa

Mr. L. C. S
Building, Ma
gineering.

Mr. Geo. W
General Man
mington, Del

Mr. C. L.
Co., has bee
hua & Pacif

Mr. Karl
terson Cont
elected Secr

Mr. John
motive Work
the new Bry

Mr. A. L.
Maryland, h
ginia Lime

Mr. J. P
to the East
Irrigation E

Mr. C. V.
Bradford Di
pany he has

Mr. Henry
St., New Yo
Electric Co

Mr. W. B.
Agent of th
and the St.

Mr. M. E
son Ry. &
position wi
Conn.

Mr. S. J.
of the Atla
quarters at
resigned.

Mr. Linco
neer, has b
Lackawanna
boken, N. J

Capt. Ri
N., has re
Navy, givi
of his eyes

Mr. Fran
negie Steel
ning Iron
father, wh

Mr. E.
of the Chi
Master Me
succeeding

Mr. Sum
of the Wi
eral Super
ern Ry.,
ing Mr.
business.